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M I N D
A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY.
EDITED BY

PROF. G. E. MOORE,

WITH THE CO-OPERATION OF F. C. BARTLETT, M.A., AND C. D. BROAD, LITT.D.

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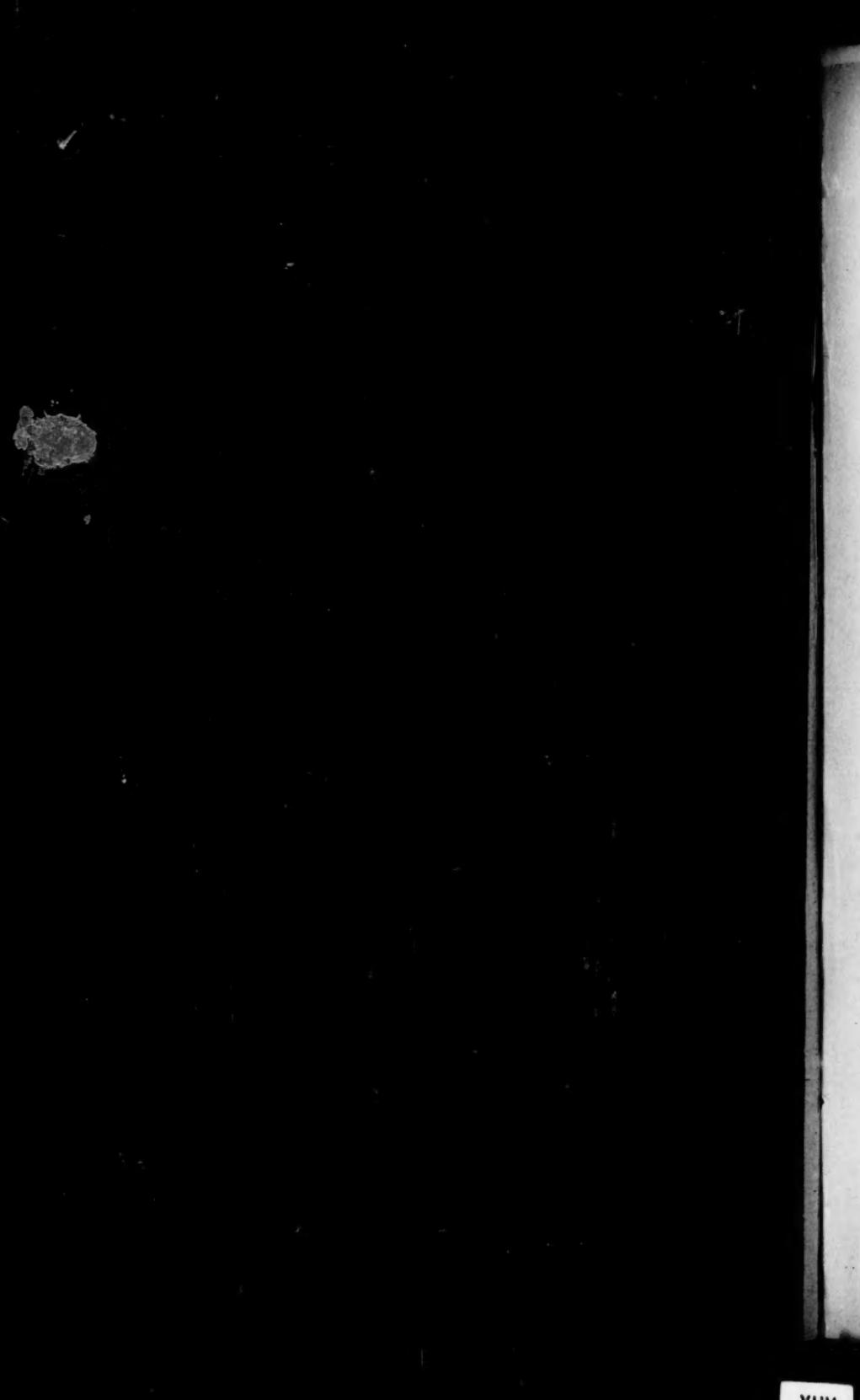
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MIND
A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY

I.—RELATIONS AND UNIVERSALS.

BY R. AINSCOUGH.

IN recent numbers of *MIND*¹ articles by Dr. Norman Kemp Smith have been published under the title "The Nature of Universals" and if my article did not deal with a different aspect of this subject I would not so soon invite the readers of this journal to consider the problem again. Dr. Kemp Smith begins by saying "The position which I shall adopt is that universals, expressive of genuine identities and not merely of similarities, are necessary to knowledge. This position can be, and has been questioned. But for the purpose of these articles I shall ask to be allowed to assume its truth. The sole question which I shall discuss is what, granted the necessity of universals, we ought to mean by them." In what follows the necessity of universals is questioned and is not granted; indeed the chief aim of this article is to explain better without the assumption of universals those facts of the world for the explanation of which universals are usually assumed.

The discussion of universals, however, occurs in the second part of this article; it is first necessary to consider the nature of relations; and in order to draw attention to the separateness of the two parts they are written under the two sub-headings "The non-existential theory of relations" and "The relational theory of likeness." Although separate, these theories are connected, and for the moment the connexion

¹ Nos. 142-144, April-Oct., 1927.

may be sufficiently described by saying that the second theory leans for support on the first which could stand by itself.

THE NON-EXISTENTIAL THEORY OF RELATIONS.

If asked to give examples of what logicians and philosophers mean by "relations" one might refer to such sentences as "*a* is to the right of *b*" "*c* is darker than *d*" "*f* is between *e* and *g*," etc., and say that the words italicised denote relations. A relation holding between two terms, e.g. "*x* above *y*," is called a dyadic relation and may be symbolised as "*aRb*" or "*cSd*". Strictly speaking "*aRb*" would symbolise "*a* to the right of *b*" and the assertion that "*a* is to the right of *b*" would be represented by " $\vdash aRb$ "; similarly " $\dashv aRb$ " would express "*a* is not to the right of *b*"; \vdash and \dashv being the signs of affirmation and denial. In the symbolisations "*aRb*" and "*cSd*" R and S stand for the relations and *a*, *b*, *c*, and *d* for the objects between which the relations hold.

So far we have referred only to the ground common to all the theories of relations and we now come to the debatable territory. Many years ago Mr. F. H. Bradley pointed out that if a relation lies between two objects then the relation itself must in some way be related to the objects that it relates. Consider a relation such as "equal to" or "brother to". Take the sentence "*x* is equal to *y* and John is brother to Jack"; if this sentence is true then the facts which make it so are not merely the existence of *x* and *y* and John and Jack and the relations "equal to" and "brother to," for it is *x* that is equal to *y* and John that is brother to Jack; *x* is not brother to John nor is Jack equal to *y*; the relation "equal to" relates *x* to *y* and the relation "brother to" relates John to Jack, and it is in this way that the objects are connected pair and pair. Mr. Bradley then maintained that, these facts being granted, we must conclude that *aRb* implies not merely the existence of *a* and *b* and R but also, first of all, of two extra relations, say *R*₁ and *R*₂, the first connecting *a* to R and the second R to *b*, the whole being symbolised by *aR*₁*RR*₂*b*. But from this follows the necessity of more relations, e.g. one connecting *R*₁ to *a* and another connecting *R*₁ to R. These further relations will in their turn require more relations to relate them to the relations on each side of them or to *a* or *b*. It is thus seen that there will be an infinite number of relations. In fact the series of relations between *a* and *b* will be compact; for there will be an infinite number of relations between any two relations we choose and between *a* or *b* and

any relation. Mr. Bradley assumed that an infinite regress of this nature was a contradiction or at least incompatible with reality and from this he concluded that relations were merely appearance and not part of ultimate reality.

To avoid the infinite regress it might be suggested that a relation lies *between* the objects it relates and that in the facts underlying the sentence "*x* is equal to *y* and John is brother to Jack" the relation "equal to" is between *x* and *y* and "brother to" between John and Jack. One fatal difficulty of this analysis is that "between" is itself a relation, and analysed in this way "*x* equal to *y*" gives us merely *x* and *y* and "equal to" and "between"; and by the principle in question further relations are required to connect "between" to *x*, to *y*, and to "equal to". Another equally fatal objection appears from a consideration of non-symmetrical relations such as "to the right of". If "*a* to the right of *b*" consists of *a* and *b* and R between them so also does "*b* to the right of *a*"; yet this is impossible, for "*a* to the right of *b*" and "*b* to the right of *a*" are incompatible at the same time. Mr. W. E. Johnson has sought to avoid the infinite regress by saying that the relation R in *aRb* is tied to *a* and *b*; or more particularly, the *characterising tie* connects R with *a* and *b*. Mr. Bradley's answer to this would be, I imagine, that the tie or ties connecting R to *a* and *b* would require further ties to tie them to R and to *a* and *b*, and thus there would be an infinite regress, not of relations, but of ties. As this point will be considered again later we shall not pursue it further now. The conclusion is, therefore, that if the analysis of "*a* to the right of *b*" (*aRb*) demands the existence, subsistence or the "being there," in any form or kind of existence,¹ of the relation R between *a* and *b* (or if not *between*, in any way connected with *a* and *b*) then there must also be an infinite series of relations between *a* and *b*.

Mr. Russell, when he wrote *The Principles of Mathematics*, admitted this conclusion but denied that it involved a contradiction or the non-reality of relations; he accepted the infinite regress but denied that it was a vicious infinite regress. It is not necessary, in this connexion, to spend much time over the

¹ I have mentioned subsistence, not because the word has any genuine philosophical meaning, but because some writers are fond of saying that relations and qualities (and other things) subsist rather than exist. What the exact difference is between existence and subsistence is not explained, but in practice this undefined shadowy existence, half way between non-existence and full blown existence, is predicated of things which it is impossible or inconvenient for the author's system of philosophy to get rid of altogether but which would look awkward if brought into the front rank of the realities of the universe.

distinction between a vicious and a non-vicious infinite regress. I take it that a vicious (non-vicious) infinite regress is a system of an infinite number of entities (no) one of which or (no) one group of which is self-contradictory or incompatible with a fact outside the system. If this be the distinction between a vicious and a non-vicious regress then I think that Mr. Bradley is wrong and Mr. Russell right when the former regards as vicious and the latter as non-vicious the regress of relations said to be involved by aRb . In my opinion, if the existence of R is assumed, there is no way of disproving that an infinite regress is involved by aRb ; but on the other hand, if I am right, there is no good reason for starting on this regress; and, however far we follow it, it certainly does not fully explain the facts that it sets out to explain.

The theory that I have called the non-existential theory of relations may briefly be summed up in general terms by saying that things are related but relations do not exist. Consider the example "*a* to the right of *b*" (aRb). How is this to be analysed? For it is clearly molecular, not atomic. (The words "atomic" and its correlative "molecular" are used in two ways which may be called the verbal and the substantial uses. The first is exemplified by the phrase 'my motor car in its garage' which may be regarded as a molecule composed of the two atoms "my motor car" and "its garage"; in the substantial sense of the word neither "my motor car" nor "its garage" are atomic, in fact the only atoms in the world in this sense would be things that are absolutely indivisible and not composed of parts. The substantial use corresponds to the ordinary scientific and popular meaning of the word. The verbal use must be distinguished from the meaning of the word "individual" in connexion with propositional functions: for example, in some connexions the values of x in $f(x)$ may be restricted to individuals as distinct from classes, nevertheless "my motor car in its garage," although molecular and not atomic, might be a possible value for x . It may be noted that the distinction between individuals and classes, as well as that between the meanings of the words atomic and molecular in their verbal sense, is not so much between the things denoted as between the way in which they are denoted. For this reason to name the verbal use of the words atomic and molecular I have employed the term "verbal" rather than "epistemic" which might have been thought preferable.)

To return to our theory of relations. The usual analysis of aRb is a, b and R. We have seen, however, that the mere existence of a, b and the relation 'to the right of' does not

account for "*a* to the right of *b*" although these three entities may exist (*a* and *b* certainly do exist) whenever "*a* to the right of *b*" exists. If it is said that "*a* to the right of *b*" consists of *a* and *b* and the relation "to the right of" between them, then "*b* to the right of *a*" consists of *a* and *b* and the relation "to the right of" between them, and thus this analysis fails to capture the difference between "*a* to the right of *b*" and "*b* to the right of *a*". Moreover "between" is itself a relation and thus further relations would be needed to connect "between" to *a*, to *b*, and to R, and however far we go in adding further relations we draw no nearer to the distinction between "*a* to the right of *b*" and "*b* to the right of *a*". How then are we to analyse the molecule "*a* to the right of *b*"? It certainly contains the two atoms *a* and *b*. Does it contain a third? I think not. If *a* is to the right of *b* then *a* exists and *b* exists and *a* is to the right of *b*, but there is no third entity "to the right of". We have found that the assumption of such a third entity does not enable us to explain the molecular fact, and that the principle by which we assume the existence of the relation "to the right of" involves the existence of innumerable other relations but that however many of these relations we assume we come no nearer to catching the difference between "*a* to the right of *b*" and "*b* to the right of *a*". If it be said "Surely there is something different between '*a* to the right of *b*' and '*a* to the left of *b*'". The answer is "Yes, there is something different, but not some thing different. In one case *a* is to the right of *b*, in the other *a* is to the left of *b*; that is the difference; the component atoms are the same in each case."

The proposition "things are related but relations do not exist" can be stated more fully in two parts; the first, I think, is proved by the arguments stated above; the second cannot be proved but follows from an application of Occam's razor. The first is that if two things are related then this fact consists of their being related and is not explained by the existence of a relation between them; the second is that since relations are not observable things, and since the assumption of their existence does not explain anything, they should by Occam's razor be removed from the list of realities.

Although relations do not exist the assumption of their existence is a *façon de parler* of frequent utility. It is a great linguistic convenience both in philosophic and common conversation to speak of the "relation between *a* and *b*," the "equality of *c* and *d*," etc., and no harm is done so long as we realise that the words "relation," "equality," etc., are what we may call imaginary nouns; an imaginary noun being

defined as a word having the grammatical status of a noun but not being the name of any thing.

We may here make a further reference to the "characterising tie" asserted by Mr. W. E. Johnson to be the connexion between a relation and the objects it relates. This tie was introduced by Mr. Johnson into his Logic to serve other purposes as well as that of overcoming Mr. Bradley's argument regarding the infinite regress, and it would therefore be a misrepresentation to discard as useless the notion of a characterising tie merely because we find it of no use in this connexion. The criticism of this notion of Mr. Johnson's in connexion with the non-existential theory of relations is simply this: if relations can be tied without further ties then things can be related without relations, and thus there is no need or place for a characterising tie; if being tied involves ties then the notion of a characterising tie only complicates the problem without in any way approaching a solution.

I have now given what seem to me to be sound reasons for rejecting the ordinary theory of relations and for accepting the non-existential theory. There are, however, several causes, mostly psychological, which operate against a belief in the non-existential theory, and a statement of these causes will help to elucidate the theory and had better be undertaken before we turn to consider universals, though a complete treatment of the matter cannot be given until the relational theory of likeness has been explained. We have seen that to speak of relations as if they were existents is a useful *façon de parler*. The concinnity of imaginary nouns is so great that language of any generality would be tediously prolix without their use. Unfortunately, while grammar is sometimes a very interesting science, it can often be a very bad guide in philosophy. A noun, grammar tells us, is the name of a thing. Therefore, it might be argued, to every noun a corresponding thing must exist. Things, however, cannot be created in this manner. In addition to this more or less explicit and rationalised argument from words to things there is perhaps a lingering unconscious tendency to believe that words have things corresponding to them. This belief is or was definitely held by certain savage tribes, if my memory of reading the *Golden Bough* serves me rightly—unfortunately it is impossible to verify this point from where I am writing now.

Another difficulty appertains to the problem of parts and wholes. "*a* to the right of *b*" is different from "*a* above *b*" though the *a* and *b* in the former may be identical with the

a and *b* in the latter. There is something different about them and we unconsciously pass to the judgement that there is some thing different in "*a* to the right of *b*" that is not in "*a* above *b*" (and *vice versa*) ; and the things that make the difference, we are likely to conclude, are the two relations "to the right of" and "above". The rationalisation of this belief would be, I think, as follows—"A thing is merely the sum of its parts, and is identical with its parts collectively, and thus if there are no parts in addition to *a* and *b* in '*a* to the right of *b*' and '*a* above *b*' these two complex objects are identical, which is absurd ; therefore there are parts in '*a* to the right of *b*' and '*a* above *b*' other than and in addition to *a* and *b*, and these parts are the relations 'to the right of' and 'above'". The answer to this argument is simply a flat denial of the statement that a thing is identical with the sum of its parts. But some distinction must be drawn here. The statement that a thing is nothing but the sum of its parts, is ambiguous. I agree that there is no thing in a thing in addition to its parts ; *substantially* a thing and its parts are the same ; take away, in a physical sense, all the parts, and the whole has gone and there is nothing left ; take away the whole, in a physical sense, and all the parts have gone and there is nothing left ; *in this sense* a thing is nothing but the sum of its parts, and no new parts are brought into being when the parts are related first in one way and then in another. We may say in fact that all that exists in a thing and all that exists in the sum of its parts is one and the same ; no thing is in the whole that is not in the sum of its parts, whatever set of parts we take or however the whole may be partitioned. But to say that a thing is always *identical* with the sum of its parts means something different, and is false. If *a* and *b* are identical then any true (false) sentence in which *a* occurs will remain true (false) if *b* is substituted for *a* (provided the sentence is about *a* and not the symbol *a*). Clearly, the way in which the parts of a whole are related makes a difference as to what we may truly or falsely say about a thing. A chassis and a body properly fitted together make a motor car which will behave as motor cars do behave, but the two parts lying separate are not a motor car and will not behave as such. In general terms we may say that $f(a \text{ and } b)$ can be inferred from $f(aRb)$ perhaps for some but certainly not for all values of f . We may mention here that the word "and" has two uses : the first, exemplified by '*a* and *b*', expresses the general relation which holds between any two or more objects that exist ; in this sense 'and' might be regarded as the most general relation, the determinable relation, in

Mr. Johnson's phraseology, of which all other relations are determinates: from " $\vdash aTb$ exists" we may infer " $\vdash a$ and b exist" where T is any relation whatever. The other use of the word 'and' is to connect sentences; in this sense it has a literary rather than a logical significance, it indicates, like the word 'but,' a connexion between one's thoughts rather than a relation between the things thought about. These uses of the word are of course recognised by grammar, but not clearly.

To sum up our discussion of relations. We have found that the assumption of the existence of a relation such as 'to the right of,' 'darker than,' or 'equal to' involves the assumption of an infinite series of relations; that there is no contradiction in these series of relations; but that they do not in any way explain the nature of relationship which can be explained without the assumption of their existence. Since, therefore, to assume that relations exist is both unnecessary and unhelpful we concluded that relations should be removed from the list of the realities of the universe, and that being related consists merely in being related. We then discussed certain points connected with causes (as distinct from reasons) which might lead to a belief in the reality of relations.

THE RELATIONAL THEORY OF LIKENESS.

We may begin our consideration of universals by citing the second paragraph of Dr. Norman Kemp Smith's first article on "The Nature of Universals" (MIND, April, 1927, p. 137).

The position ordinarily adopted by those who believe in universals is that universals are either qualities characterising a number of distinct particulars or relations recurring in a number of different situations. Thus if it be asserted that A is red and that B is red, what, on this view, is meant is that though the things A and B are distinct and spatially separate, one and the same identical character is found in both. It is as against this fundamental thesis that the outstanding difficulty in regard to the nature of universals—the difficulty which has given rise to so endless an amount of discussion—at once presents itself. By what right are things and characters thus differentially treated? The red that is seen in A is spatially separate from the red that is seen in B . If spatial separation justifies us in regarding A and B as numerically distinct, why not also in the case of the characters? What justifies us in saying that though A and B are numerically distinct, the red thus seen in two places is none the less identical in both?

Briefly but inadequately we may say therefore that the theory of universals explains likeness by identity: the opposite theory, associated with the designation Nominalism, a refinement of which will be advocated in what follows, explains likeness by similarity. When considering the pros

and cons of two opposing theories that each attempt to explain the same facts it is well to keep certain words for the neutral purpose of referring to the facts admitted on each side of the debate; and in the preceding sentence the word "likeness" is used in this manner. The admitted facts in this problem may be exemplified by two bits of single-coloured ribbon, one light blue, the other dark blue. Take up the light blue piece first and cut it in two, then if the dyer has done his work properly each half will, as regards colour, be exactly like the other; this is an example of exact likeness. Now compare a piece of the light blue with the dark blue; they are not exactly alike in the way that the two pieces of the light blue were exactly alike in colour, yet they are like one another in a way that neither is like a piece of red ribbon; both, we say, are blue though of different shades; let us call this kind of likeness—approximate likeness. The phrase partial likeness is sometimes used for this purpose but "approximate likeness" is better since there are degrees of approximate likeness. Between the light blue and the dark we can find many, if not an infinite number of, intermediate shades each of which is more approximately like every other shade of the series than the two original end shades are alike one to the other; and if we pick out any two shades the closer they are together in the series the higher the degree of their approximate likeness.

We must also consider the nature of the objects between which likeness prevails; and the point that must be emphasised is that likeness is certainly at least between the objects of immediate and direct experience, which may, I think, without prejudging any question, be called sense-data. I do not now wish to consider whether, and in what sense, we can rightly say that objects that are not objects of direct or immediate experience are like or unlike one another; but without doubt the instances of likeness of which we have direct experience are instances of likeness between objects of direct experience; and any theory of likeness must first of all deal satisfactorily with such instances. That is, in somewhat different language, our problem must first be solved as regards the appearances of things and later, if at all, as regards things in themselves; firstly and essentially phenomena, secondly and possibly noumena.

Having stated some of the relevant admitted facts we can proceed to examine the theory of universals and afterwards to expound an alternative theory. The paragraph above quoted from Dr. Smith's article on universals introduces us immediately to the commonest criticism of universals and the

one that probably first occurs to a student approaching the problem. A patch of colour here and another over there in a different place are both blue and thus the universal "Blue" is in each. How is it possible for one thing to be in two places at the same time? This criticism is usually met in one of two ways: either it is flatly asserted that the principle "one thing cannot be in two places at one time" though applicable to the ordinary things of the world, such as cups and saucers, does not apply at all to universals, or, the general validity of the principle is impugned, perhaps on account of a lack of definition of the phrase "one thing," perhaps because of the ambiguity of the word "place". A long discussion would be needed to clear up either of these points of vagueness and I shall not attempt to do so now since I propose to develop this criticism of universals from a different aspect, not using the principle above-mentioned, or, more accurately speaking, not using it as above-expressed; nevertheless it may not be without interest to note a certain similarity between the words "thing" and "place". Both are subject to what we may call "systematic numerical ambiguity". By this I mean that before we can unambiguously predicate number of either place or thing we must first say what kind of thing or sort of place we are speaking of. A heap of potatoes is one heap but many potatoes; a wall is one wall but many bricks. In this sense anything is both one and many, but one of one kind of thing and many of another. Similarly the place of one heap of potatoes occupies the many places of the individual potatoes of the heap; thus a place is one place of one kind and many of another. To render precise, therefore, the principle that one thing can be in only one place at one moment it would be necessary to specify the kind of thing and the sort of place. This principle, in common thought, may also be an expression of the fact that as anything moves it vacates one place simultaneously with its occupying another. To some extent also it may be regarded as a summing up of such spatial generalisations as 'a thing cannot be both above and below, or to the right and to the left of, etc., another thing'. A complete discussion of this principle, however, would involve a consideration of the relations between sense-data and physical objects; this, fortunately, it is not necessary to undertake, for I think that this criticism can more profitably be conducted by considering the connexion between spatial separation and otherness. Moreover, as already mentioned, even if the principle were so revised as to be admittedly applicable to ordinary objects it might still be possible for an upholder of the theory of

universals to maintain with some show of persuasion that it was inapplicable to universals.

Let us now examine the connexion between spatial separation and otherness. What I maintain is that spatial separation implies otherness; in my opinion there cannot be much argument about this point; to me it seems that once all confusions have been cleared away the matter is obvious; therefore I shall merely address myself to removing probable sources of misunderstanding. To exemplify what is meant by spatial separation I would point to two objects one of which is above, or to the right of, etc., the other; such two objects are spatially separated, whether they have a common boundary or not. Some such exemplifications as this would form the basis of any definition of spatial separation; to complete the definition, in order to make it applicable to objects one of which is wholly or partially enclosed or overlapped by another it would be necessary to pursue further details, but for the purpose of the main argument of this article what has been said above is sufficient. Otherness is equivalent to the denial of identity; if *a* is other than *b*, then *a* and *b* are not one and the same object and *vice versa*. Although spatial separation implies otherness, otherness does not always imply spatial separation; there are, it seems clear, other kinds of separation which imply otherness, but with these we are not now concerned; all that I wish to maintain at the moment is that at least spatial separation implies otherness. This point must not be confused with the much debated question whether, in perception, we always notice spatial separation before difference or difference before separation. When I say that spatial separation implies otherness I mean that if two objects are spatially separate one from the other, then they are not one and the same object, they are not identical; whether we first notice their spatial separation or first their otherness or whether either character is ever noticed at all is another question. Beyond mentioning the connexion between otherness and counting it would seem to be unnecessary to say anything more on this point. Otherness is sometimes spoken of as numerical otherness; this has reference to the fact that if a set of things are enumerable then each thing enumerated must be other than every other member of the set that is counted. Now since spatial separation involves the possibility of counting this reinforces our conclusion that spatial separation implies otherness.

The next step in our argument takes us to the relation between sense-data and universals. This is a matter that could best be expounded by some supporter of the orthodox

theory of universals; since I do not believe that universals exist I have no detailed views as to their relations to sense-data; nevertheless something can be said in a general way as to what their relations must or must not be if universals are to fulfil their functions. One cannot help feeling that some writers have, implicitly at least, regarded universals as causative or underlying factors. Now it seems to me that we have not begun to understand the problem until we realise that a universal cannot possibly by any manner of means be a causative or underlying factor. The function of a universal is to appear itself unmediated and to manifest its own nature; its function is not to underly or to cause a sense-datum (or other object) to have an appearance of a certain nature. Consider, for example, two patches of blue on a piece of white paper. The likeness that has to be explained is the likeness between the two blue sense-data, *i.e.*, the two blue appearances. The orthodox theory of universals states that this is due to the manifestation of the universal "Blue" in each sense-datum. And we must insist that the universal appears, appears directly and immediately, where the sense-datum is; what we see, so far as it is blue, is the universal "Blue" manifesting itself nakedly. The universal cannot be related to the sense-datum in the manner that, according to the causative theory of perception, a physical object is related to one of its sense-data. If the universal were spatially separated from the sense-datum, or, wherever located, merely caused the datum itself to be blue, the likeness between the appearances, *i.e.*, the sense-data, would remain unexplained. Or we may put the argument in another way: if the universal itself does not appear directly and unmediated, but, underlying the sense-data, causes them to be alike, then, in accordance with the theory of universals, namely, that likeness consists in the identity of a common universal, another universal will be required to explain the likeness of the appearances, *i.e.*, the sense-data; and so on till some universal does appear directly. I am afraid that I have laboured this point and have repeated myself, but a thorough and clear grasp of the part that a universal has to play is of primary importance; and if what I have said is correct we can pass without hesitation and with little further preliminary explanation to the conclusions for which we have been preparing.

We have found that a universal must, if the theory of universals be true, be where the sense-datum is that it characterises. But two sense-data each characterised by the same identical universal may be spatially separated. And spatial separation, we agreed, implies otherness. This is

a contradiction from which we may infer that the theory of universals is false.

Let us now leave the question of spatial separation and turn to another aspect of universals. We noticed that there are two main kinds of likeness to be explained—exact likeness and approximate likeness. As examples let us consider, as before, three sense-data, two exactly alike, say of Cambridge blue, and one, approximately like the first two, of a darker blue. In accordance with the theory of universals at least three universals are here involved : the universal corresponding to the shade of the darker blue, the universal "Cambridge Blue" qualifying the two sense-data of that shade, and thirdly the universal "Blue" which accounts for the approximate likeness between the darker and the lighter shades. Now consider the last-mentioned universal. What are we to say of its nature ? It is not Cambridge blue ; it is not of the darker shade ; what is it ? Apparently the answer must be that it is just blue but of no particular shade. But is there such a thing ? What does it look like ? And does perception give us any ground for thinking that there is such an object ? For we must remember that it has to be an object of direct perception. There are thus two objections to the type of universal required to account for approximate likeness. First it seems difficult to believe in the existence of objects that while, for example, they are in some way blue are not of any definite shade of blue ; secondly, perception yields no evidence for the existence of such objects ; at least in my perceptions I cannot observe anything of this nature. Can the theory of universals evade these difficulties ? It might be maintained that the theory applies to exact likeness only and not to approximate likeness. This is logically possible but is a weak way out of the difficulty. If approximate likeness cannot be explained by the theory of universals but has to be dealt with by some other theory, say the one to be expounded shortly, then is it not reasonable to prefer the other theory if it copes with both kinds of likeness, especially when we remember that exact likeness may be regarded as a limit of approximate likeness ?

In the foregoing we have considered two only of the universals of colour that qualify a patch of blue, the universal corresponding to the exact shade and the general universal "Blue" ; if the theory of universals is to be complete it will readily be seen that a large number, if not an infinite number, of such universals will be required. The mere largeness of the number of these universals does not itself raise any extra difficulty, but we shall perhaps obtain a clearer view of the

position that universals have to fill if we consider how this point arises. First let us imagine a shade of light blue. Clearly this is more like any shade of blue than any shade of red or any other colour; it is therefore qualified by the universal "Blue"; it is also more like any shade of light blue than any of the other shades of blue, it is therefore qualified by the universal "Light Blue"; and it is of course qualified by the universal corresponding to its exact shade. Thus there are at least three universals qualifying any shade of light blue. This is easily extended: let us suppose that there are only fifty shades of blue (it is clear that there are many more, if not an infinite number) arranged in order from the lightest shade of light blue to the darkest shade of dark blue. Consider any group of consecutive shades. It is clear that every member of any such group is more like any other member of the group than any shade outside the group; thus there will be a universal corresponding to every such group, and every shade belongs to a large number of groups (the end shade to 50, the second from the end to 49×2 , the third from the end to 48×3 and so on). It is not, of course, necessary that we should always observe these universals though they are objects of direct awareness, but in so far as we do notice degrees of likeness it is, according to the theory of universals, due to the recognition of these universals.

In addition to these difficulties appertaining to approximate likeness there is a similar difficulty relating to exact likeness, which may be illustrated by two square patches of colour, one blue, the other red. Both being square their likeness in this respect, according to the theory under criticism, is due to the presence of the universal "Square". And the dilemma here is that every part of one square is blue, of the other red, yet the universal "Square" is neither blue nor red. If it be suggested that the likeness of shapes resides, so to speak, in the edges of the shape, which can perhaps be said to be of no colour, the coloured squares of the above example may be regarded as filled squares which are like one another in a way that neither is like the outlines of a square. So long as we forget that a universal to fulfil its function must appear directly, nakedly, and unaltered in every instance of its appearance, we may slur over the foregoing difficulties; but if we bear these facts clearly in mind the difficulties are seen to be fatal to the theory.

We now come to the theory I propose to substitute for the theory of universals, namely the relational theory of likeness. As already stated this is a refinement of Nominalism, and it will be convenient to state the difference between this theory

and Nominalism in the course of an examination of the objections to Nominalism, or what I take to be the central position of Nominalism, *i.e.*, that likeness is merely resemblance. For this purpose are quoted below extracts from Dr. Norman Kemp Smith's article in MIND, October, 1927, p. 395.

First, resemblance, being a relation, presupposes like all other relations, a complex unity within which the terms of the relation, and the relation itself, fall. In the case of resemblance, this unity is the distributive unity of a class. And since apprehension of this unity is the *Fundamentum Relationis* employed in the apprehension of resemblance, the resemblance cannot be the ground for our assertion of the unity.

Secondly, even the most extreme of nominalists employs the terms 'all,' 'every,' 'any,' 'some,' and the indefinite article. Yet obviously, the meaning of these words cannot be stated adequately in terms of resemblance

Thirdly, what can the nominalists mean when they speak of 'resemblance in a certain respect'? They cannot be referring to single qualities indissolvably present in the members of the class as, *e.g.*, in the case of triangles 'being enclosed by three lines'. Their nominalism consists precisely in the denial of any such qualities.¹

I am not at all sure what Dr. Smith's first difficulty really is, but I take it to be this: if we explain likeness by resemblance instead of by universals, some, if not all of the difficulties which we found connected with universals will appear again in connexion with the relation resemblance, *e.g.*, the one identical relation will have to appear in many places spatially separated one from another. This objection is met by the non-existential theory of relations; and this is the meeting point of the two theories advocated in this article. If relations were existent entities, as is commonly supposed, then Nominalism and any theory akin to it would be impugned by some of the foregoing criticisms of universals as much as the theory of universals itself. But, as will easily be seen, none of the objections to universals apply to relationship as explained by the non-existential theory of relations. On the other hand, the spatial difficulties of universals tell equally against relations as assumed by the ordinary existential theory; thus providing a further argument for the non-existential theory.

Let us now pass to Dr. Smith's third objection to Nominalism, returning afterwards to his second criticism. Against crude Nominalism this objection is valid. Two sense-data may resemble one another in colour but not in shape; the single relation of resemblance cannot therefore account for their likeness and unlikeness. If we say that the resem-

¹ It should be added that these objections are paraphrased by Dr. Smith from an article by Mr. Stout.

blance is between the colour of one and the colour of the other, we posit something which we call 'the colour' of the sense-data, and this, if not a universal, is something so like one that it is subject to the same difficulties; and in any case, as Dr. Smith points out, the essence of Nominalism consists in the denial of such entities.

Instead of using the word 'resemblance' I shall speak of 'similarity' and use the cognate words 'similar', 'similar-as-being-so-and-so,' etc.; this of course is but a verbal matter of convenience, it leads us, however, to the solution of the foregoing problem and to one of the chief differences between crude Nominalism and the theory herein advocated. There is not in my opinion just one relation of resemblance holding between all the various things that are alike, but there are as many different relations of similarity as there are universals necessitated by the ordinary theory of universals. For example, two patches of Cambridge blue are similar-as-being-Cambridge-blue, two of Oxford blue similar-as-being-Oxford-blue, and so on, there being a different relation for every shade of blue; any two objects that are blue of whatever shade are similar-as-being-blue, etc. There is a sound of artificiality about these names, but I think that this is due to the fact that the names are new and that ordinary language, embodying ordinary thought, has never felt the need to name these relations, for the underlying facts are commonly regarded as due to the presence of qualities. In order that the names I have used may be self-indicative of their meaning it has been necessary to adopt the name of the ordinarily assumed quality or universal as part of the name of the relation; were there in common use one-word names for these relations no artificiality would appear to be attached to them.

I wish to stress the fact that the different relations such as similar-as-being-blue, similar-as-being-square, etc., really are different. Let us examine some facts that might perhaps lead us to think otherwise. First of all any two relations such as similar-as-being-Cambridge-blue and similar-as-being-Oxford-blue are alike to the extent that each may be regarded as a determinate of the more general relation similar-as-being-blue. Secondly, all the various kinds of similarity in question are pantransical—if I may be allowed to coin a somewhat barbarous word from "*πᾶν*" "transitive" and "symmetrical". By this I mean that in addition to being symmetrical they have the property that if any object is related by a certain pantransical relation to any other object then it is related by that relation to every other object that is related by that relation to any object. In symbols; if R is pan-

transical then $\vdash xRy \supset \vdash yRx$ (*i.e.* R is symmetrical) and $\vdash xRy \cdot wRz \supset \vdash xRw$. For example, if a certain object is similar-as-being-blue to any other then it is similar-as-being-blue to every other object that is similar-as-being-blue to any object. A relation such as similar-as-being-blue may be contrasted with one like similar-in-colour, both are symmetrical and reflexive, but while the former is pantransical the latter is only transitive. This leads us to another classification of relations. Mathematical logic has made us familiar with the division of relations into monadic, dyadic, triadic, etc., and, in general, polyadic relations, where the number refers to the number of objects related in an instance of the relation. In addition to this some relations involve the existence of at least a certain number of parts in the objects related, *e.g.*, the relation of similarity between one Tricolour flag and another implies at least three parts in every Tricolour. We may therefore classify relations according to whether they are unic, duic, triic, or in general multic. Similar-as-being-blue is unic since if we know that an object is related by this relation we cannot infer that it has more than one part. The pantransical relation between any two couples each consisting of one object to the right of the other is duic. The relation of similarity between two Union Jacks is multic, and so on.

Thirdly, we come to another point of resemblance between pantransical relations of similarity. In the classification of relations as monadic, dyadic, etc., and polyadic, it is necessary, I think, to point out that the number refers to the *minimum* number of terms involved in any instance of the relation. Thus "to the right of" is dyadic because if an object is to the right of something it is to the right of at least one other object; though it may be to the right of many, it cannot be to the right of itself; therefore at least two objects are involved in any instance of "to the right of". For similar reasons "between" is triadic. It will be seen that to be monadic is the same as to be reflexive, *i.e.*, if an object can be related to itself in a certain way then that way of being related is monadic. This classification is purely constitutive; it involves no reference as to how we come to know whether objects are related by the relations in question. There is, however, a cognate classification from the epistemic aspect. The pantransical relations in question are such that if a person has once observed instances of a certain relation of this type and then later another single object having the relation is brought before his attention he can tell that it has the relation without reference either in perception or memory

to any other object. *E.g.*, if we have once been shown a flag, say a Blue Peter, on next seeing a Blue Peter we can recognise and know what kind of flag it is without seeing, either directly, or by way of an image, any of the Blue Peters we saw before. This, of course, is simply the law of association, which as a first approximation may be stated in the form 'to similars we respond in a similar manner'. One of the similar manners in which we respond is to utter the name of the object and to feel confidence in our utterance if we felt such confidence before. Knowing what a thing is called consists to a large extent in this response. The different kinds of similarity that operate, so to speak, the law of association are, in my opinion, just those pantransical relations which, if I am right, are the basis of what is usually explained by universals. But to return to our epistemic classification of relations. We have seen that such a relation as similar-as-being-blue is epistemically monadic. Now consider the relation 'to the right of'. While it is true that if we know that an object is in space we may *infer* that it is to the right of some other object without seeing any other object, we cannot perceive that it is to the right of some other object unless we observe that second object; this being so we may say that 'to the right of' is epistemically dyadic. For similar reasons 'between' is epistemically triadic. It may be true that all relations are of the same order epistemically and constitutively, and I think it is true that they are if we confine ourselves to direct relations; a direct relation being one that is not indirect, and an indirect relation being one that involves reference to certain terms besides those between which the relation holds, *e.g.*, 'brother to' is indirect because *x* is brother to *y* means that *x* is a son of certain parents who are the parents of *y*. But this question need not concern us now; the point I wish to make is that the many different relations of similarity we are considering are all monadic both from the constitutive and epistemic aspect. Before leaving this point it will be opportune to illustrate the interconnexion between the three classifications of relations we have mentioned. If *a* is to the right of *b*, and *c* to the right of *d*, and if *R* stands for 'to the right of' and *T* for the relation of similarity holding between all couples one member of which is to the right of the other, then we have $(aRb)T(cRd)$ in which *T* although, so to speak, based on the constitutively and epistemically dyadic relation *R* is itself monadic both constitutively and epistemically, while at the same time *duic*, since any object related in this way is a complex of at least two parts.

We have now considered three properties common to relations of similarity. Since none of these common properties gives us any reason for thinking that the different relations of similarity are really all instances of one relation we can confidently meet Dr. Smith's third criticism of Nominalism by saying that it is not one relation of resemblance between different aspects or respects of things that accounts for their likeness but many different relations of similarity relating the things themselves.

We can now return to Dr. Smith's second criticism of Nominalism. Unless I have misunderstood him this is no criticism at all. He asserts that Nominalists use the words 'all,' 'every,' etc., but that these words cannot be defined in terms of resemblance. I agree that there are problems connected with the use of these words, and it may be that these problems are still unsolved, but I cannot see how the solutions will in any way be affected by the acceptance of either Nominalism or the theory of universals. Consider the phrase 'all blue sense-data'. According to the theory of universals this will be interpreted as 'all sense-data qualified by the universal Blue'; according to the theory advanced in this article it will be 'all sense-data similar-as-being-blue to something,' in each case so far as the 'all' is involved the same problem has to be solved and the puzzle is equally perplexing.

The theory which I offer as a substitute for the theory of universals and as an improvement on Nominalism has now been explained, in outline at least. It will readily be seen that it is not impugned by any of the objections raised against universals in the preceding paragraphs. The world of sense-data, in my view, consists of sense-data related one to another, and of nothing else. No question arises as to the identity of objects occupying at one moment many positions spatially separated; nor is it necessary to posit such indeterminate objects as the universal 'Blue', required by the theory of universals to account for the likeness between blue sense-data of different shades; nor is there any perplexity as to how such a sense-datum, apparently all blue, as a square patch of blue, contains and manifests something uncoloured like the universal Square.

Many details remain to be filled in in the outline offered above, and the subjects touched upon have numerous ramifications; but the conclusion of this article will be confined to an attempt to indicate the bearing of the above theories on the problem of internal and external relations.

Many a problem of philosophy is complicated by the fact

that no one knows what the problem exactly is. The question of internal and external relations has not escaped this difficulty. Some writers maintain that all relations are internal, others that all are external, nearly every one is dissatisfied with every definition, except perhaps his own, of the distinction between the two kinds of relations. In view of this, the best plan is to state vaguely what is vaguely felt to be the distinction, try to make the definition precise and then point out what relations are covered thereby. It is felt, I think, that some relations make a difference to their terms and that some do not. This raises two questions. What do we mean by 'make'? And what is a 'difference' in this connexion? If my memory serves me rightly (this article is being written where big game are more numerous than books) in a well-known dissertation on the subject of internal and external relations 'entails' or 'necessarily implies' is substituted for 'makes'—with of course many other refinements. The idea of necessity, however, seems to me to be out of place in this problem. In my view the difference between '*p* implies *q*' and '*p* entails or necessarily implies *q*' is an indirect relation (in the sense defined above) in which the term or terms not explicitly mentioned consist of the facts involved in our reasons or causes for believing the implication. *E.g.*, if *a* is above *b* then we might say that this not only implies but necessarily implies that *a* is not below *b*; the difference between the two statements being a reference to the inner compulsion to believe the implication. In this instance the feeling of necessity attached to the belief is due, partly at least, to the fact that the law 'an object is never both below and above another object' is obeyed both by our percepts and our images, even those of our wildest dreams.

If this example is typical of others it shows that the suggestion of necessity should not be cast out at the beginning of a philosophical problem but should be pursued till we find the reasons or causes which gave the belief the feeling of necessity. In other words necessity is a vague feeling pointing to the existence of reasons or causes which may or may not validly support the belief. This being so 'necessarily implies' cannot appear in any precise definition of an internal relation. Let us say therefore that an internal relation is one that implies a difference. This of course must be made more definite. What we feel is that internal relations only are such that if an object has one to a certain other object this implies that if it had not had that relation to the other object then it would have been different. This definition as it stands raises certain logical puzzles when applied to the world of sense-

data ; and we must first solve our problem in regard to sense-data, and then later, if we wish, from this solution construct definitions suitable for physical objects, continuants, etc. One difficulty is that strictly speaking we cannot say 'if it had not had that relation . . .'; we cannot suppose that a sense-datum were different from what it is, for if it were different it would be another sense-datum, and, so to speak, it would not be it. Let us try again and define an internal relation by saying that R is internal if $\vdash xRy$ and $\vdash zRy$ imply that x is different from z for all values of x , y and z ; i.e., internal relations are such that if one object is related by an internal relation to a second, and a third object is not so related to the second, then the first is different from the third.

We may now turn to consider what we mean by 'a difference' or 'is different'. A definition of the widest kind of difference would be to the effect that any two objects are different if there is any proposition true (or false) of one that is not true (or false) of the other. For example, one marble would be different in this sense from another of exactly the same size, colour, shape, etc., if a certain person had looked at one but not at the other. It is clear that this kind of difference is too wide for a definition of internal relations. What we are seeking is a definition of 'a difference in the object itself,' and not, so to speak, in its external relations. The different interpretations of this phrase have led some writers to advance the theory that all relations are internal and others that all are external. It is easy to invent arguments of a sort on each side of this question. On the one hand we could say that any relation apparently external, such as 'to the right of' is really internal, for if a is to the right of b then a has the quality of being to the right of b , and, since a quality is in some way contained in the thing it qualifies, this makes a difference to a . The flaws of this argument are very apparent. There is no such thing as the 'quality of being to the right of b '; to say that a has this quality is only a roundabout way of saying that a is to the right of b ; and that, as we found in the earlier part of this article, merely means that a is to the right of b ; we cannot even deduce the existence of the relation 'to the right of,' and, *a fortiori*, not the existence of the quality of having the relation. On the other hand we could argue that any relation apparently internal, such as similar-as-being-blue, is really external, for if a is similar-as-being-blue to b we can easily imagine b changing colour or ceasing to exist while a remains unchanged, and thus being similar-as-being-blue to b or not does not make a difference to a . This argument is valid so far as we have carried it; we

must watch that the right conclusion is drawn. What the argument proves is that no difference is made to an object if it is first related and later not related by an internal relation to another object provided it is the other object that changes or ceases to exist. What a supporter of the theory that all relations are external might erroneously conclude is that it makes no difference to an object whether it is or is not related by an apparently internal relation to any object. In other words the argument shows that being or not being related in any way to a certain particular object does not make any difference, and it suggests that what does make a difference is being related in a certain kind of way to some object, but not any particular object.

Let us now approach our problem from a slightly different aspect. Although when we were considering the classification of relations we found that there are many monadic relations, *i.e.*, relations of which the minimum number of terms related in any instance is one, there does not appear to be any relation, except that of identity, of which the maximum number of terms that it is capable of relating in any instance is one; this shows that, unless identity is the only internal relation, internal relations cannot be defined as those relations which relate an object to itself only and never to another object; and it points to the conclusion that what is internal about certain relations, what makes a difference to the object itself as distinct from a difference to its external relations, is that certain relations are epistemically monadic. That is to say a difference in an object itself is a difference of relationship that we can observe by observation of the object itself only. This in its turn points to the conclusion that pantransceral relations must be included in the class of internal relations, for we found that they are all epistemically monadic. The same conclusion may be reached by considering what we mean by the denial of difference. Very roughly speaking we should say that if things are not different then they are the same. One meaning of the word 'same' corresponds to identity, *e.g.*, if it is said "the man who committed the crime and Mr. Brown are the same" this means that they are identical. The other meaning is equivalent to 'similar' or 'exactly similar'. In ordinary language we should say that one object differed from another in some respect if one had a quality not possessed by the other; *i.e.*, one thing is different from another if one is related to some object (which may be itself) by some pantransceral relation while the other is not so related. There are therefore as many kinds of

difference as there are kinds of similarity, and it will be convenient to speak of things being dissimilar-as-being-so-and-so when they are not similar-as-being-so-and-so, e.g., if we call the relation between any coloured sense-data¹ similar-as-being-coloured, then the relation between any two sense-data both of which are not coloured may be called dissimilar-as-being-coloured, and this relation will hold between any two objects when either one or both is not a patch of colour; in like manner dissimilar-as-being-blue may be defined to mean not similar-as-being-blue; and dissimilar-in-shade would mean not similar in shade and so on. It should be noted that just as some kinds of similarity are pantranscical and some only transitive and symmetrical so some kinds of dissimilarity deny pantranscical relations and some only transitive and symmetrical relations.

We have now seen that two ways of approaching a definition of 'a difference in an object itself' lead us to pantranscical relations; one way took us *via* epistemically monadic relations, and the other way brought us to our conclusion more directly along the path indicated by the meaning of the denial of difference. This preliminary work accomplished, we may frame our definitions. Instead of speaking of one thing being different in itself from another, it is more appropriate to use the phrase 'internally different' with the cognate phrase 'externally different'; and we shall define (1) that one thing is internally different from another if either it is related to one or more objects (the one may be itself) by an epistemically monadic direct pantranscical relation by which it is not related to the other; (2) that R is an internal way of being related if for all values of x, y, and z $\vdash xRy$ and $\dashv zRy$ implies that x and z are internally different; (3) that all ways of being related, not internal ways and not those of identity or otherness, are external ways; and (4) that one thing is externally different from another if it is related in a certain external way to a certain object and the other is not related in the same way to the same object.

It will be seen that the relations covered by the definition of an internal relation are not only relations of similarity and dissimilarity but also such transitive relations as similar-in-colour, -in-shape, in-loudness, etc., and all those relations such as darker than, louder, etc., whose affirmation or denial in connexion with a definite object implies a pantranscical relation of similarity. The above discussion and definitions show that internal relations may, if we wish, be divided into two classes:

¹ I include black and white amongst the colours.

(1) Pantransical relations of similarity, the presence of one of which in one object and its absence from another object is actually what we mean by an internal difference between the two objects, and (2) all relations not pantransical but such that one object being related and another not by one of these relations to a third object implies the presence in one object and the absence from the other of some pantransical relation. It might be thought that identity is an internal relation, but if x is identical with y and z is not, the only conclusion we can draw is that x is other than z , and this does not imply that x is internally different from z , because, for example, it is easy to imagine two patches of colour exactly similar one to the other in size, in colour, in shade, in intensity, in luminosity, and in every other way (if there is another way) that a patch of colour can be similar.

The four definitions given above entail a division of all relations, in the world of sense-data at least, into internal relations, external relations, identity and otherness. There are several reasons for not including identity and otherness amongst external relations. First of all the suggestion that every relation must be either internal or external is groundless; secondly, I feel for reasons which I find hard to express and impossible to do so within the compass of this article, that identity and otherness are so different from all other relations as to demand a separate category; and thirdly, we want to be able to ask the question (whatever, and however obvious the answer may be) whether or not otherness implies external difference, and the definition numbered 4 above would formally preclude the possibility of doing so were either identity or otherness included amongst external relations.

Finally, let us apply our definitions to the ancient problem of the Identity of Indiscernibles. From what has been said above about identity we may conclude that if discernible means internally different then indiscernibility does not imply identity; on the other hand with the same meaning discernibility does imply otherness, for a thing is never internally different from itself. If discernible means externally different then discernibility implies otherness; whether with this meaning indiscernibility implies identity seems to me to be a moot point, because, for example, *I think*, that I can attend to two sounds that differ internally only. The absence, however, of both internal and external difference, which we might call complete indiscernibility, does imply identity.

II.—THE FIELD OF AESTHETICS.

BY A. C. A. RAINER.

THE problems which commonsense and the æsthetic critic hand over to the philosopher for scientific treatment may be divided *prima facie* into three groups, connected with (i) the nature of art, (ii) the nature of æsthetic appreciation, (iii) the distinguishing characters of beautiful objects in general. I intend to show, by examining Mr. Alexander's views on the nature of art and beauty, not only that these groups must be kept quite distinct at the outset of æsthetic inquiry, if this is to advance methodically, but that they are in reality irreducible to one another. Beauty, more specifically and in particular, cannot be explained as *in its essential nature* an effect of artistic production or object of æsthetic appreciation. The hypothesis on which æsthetics must proceed, I shall argue, is that beauty is a real character of things: the beautiful, so envisaged, whether manifested in nature or in artistic products, is the true field of æsthetics. When transferred to the *dialectician*, whose task it is to correlate the fields of all the sciences with one another, this hypothesis may have to be modified: I shall, however, in the course of argument indicate reasons for believing it and no other to be in accord with the logical principles governing all knowledge; my argument will be mainly concerned to defend it by delimiting the fields of æsthetics and psychology from one another; and, in conclusion, I shall attempt to deal briefly with objections commonly raised by workers in the fields of ethics and "natural" theology.

Though the æsthetic problem proper is not likely to be solved if we ignore the connexion between beautiful objects and the mental processes whereby they are created and enjoyed, its solution is really being predetermined and not facilitated if we formulate it, as is frequently done, in the terms: What is *art*?; or, What is *æsthetic experience*? These terms may be employed by metonymy in literary discussion to refer to the problem of beauty; but in scientific inquiry such usage is quite unjustifiable, and tends to commit

the investigator at the outset to a quasi-psychological treatment of aesthetic topics. Whether beauty is to be defined by reference to the characters of the things of which we predicate it or in relation to the modes of artistic and appreciative activities is an issue which must be discussed on its own merits; but equally it must not be foreclosed in favour of one alternative rather than the other. This is, however, inevitably done if we formulate our problem in the terms: What is *art*? or What is *aesthetic experience*? rather than in the terms: What is beauty? Just because the view that beauty ought to be explained as ontologically dependent on mental activity leads to conclusions about the *status* of ugliness and natural beauty which unsophisticated opinion would decidedly reject, it is incumbent on those who wish to maintain this view to indicate explicitly why they wish to substitute at the outset of their inquiry a quasi-psychological distinction for the plain distinction between beauty and ugliness. The conflict of opinion to which I have referred shows quite clearly that in application to the objects of aesthetic appreciation commonsense must mean by the terms "beautiful" and "ugly" something different from what the theorist means who deals with the conceptions of the "artistic" and "non-artistic," or the "aesthetic" and the "non-aesthetic". On the other hand, the term *art* as used in current aesthetic discussion must have a different significance from what it has when, e.g., we define music as the art of creating beauty in sound. Like the term *aesthetic experience*, the term *art* is in current usage endued elliptically with a normative significance. It is not used positively to refer to a definite class of psychical or psycho-physical processes which can be investigated scientifically; and to say that a work of *art* is beautiful would be, according to this usage, tautologous. Similarly, *aesthetic experience* is not regarded as experience of objects which may be beautiful or ugly; if an object is experienced *aesthetically*, in the terminology of certain theorists, it is *ipso facto* beautiful. Thus the terms *art* and *aesthetic experience*, according to this peculiar usage are neither psychological unambiguously, nor yet unequivocally philosophical and "normative": they refer exclusively neither to what corresponds in an *aesthetic situation* to the *epistemic* elements nor to what corresponds therein to the *constitutive* elements in a cognitive situation;¹ and, in fine, the "normative" distinction to which they refer in reality is much more recondite, much less easily grasped than the distinction indicated by the terms "beauti-

¹ Cf. W. E. Johnson, *Logic*, Pt. I., pp. 1-8.

ful" and "ugly". If method requires that a scientific inquiry should start with "what is more known to us," the problem of aesthetics must be formulated in terms of beauty and ugliness.

It would, however, be little use insisting on a simple terminology to mark the distinction between different elements in what I have termed the *aesthetic situation*, and the problems connected therewith, unless we may rightly hold appreciation and its objects, art and its products to be really distinct each from one another. If this ontological or epistemological issue be raised it then becomes important, for a defender of the hypothesis I am proposing, to insist on drawing a clear distinction between artistic creation and appreciation; for it is by maintaining that all *intuition* is at the same time *expression* that Croce and his followers are led to the view that the very nature of the beautiful is to be *expressed-and-intuited*. If we cannot *intuit* or appreciate anything without working creatively on the thing so as to *express* our emotions in it, then it follows that we cannot predicate beauty or ugliness of any state of affairs which is simply given for determination, in propositions which are either true or false, and capable of being affirmed or denied by another observer. Here we have a very complete philosophical defence for substituting in aesthetic discussion a distinction between the "artistic" and the "non-artistic" or the "aesthetic" and the "non-aesthetic," with all its paradoxical consequences, for that between beauty and ugliness. But this hypothesis is disproved, I should maintain, by its inability to account for the "appearance" of aesthetic criticism and communication. If appreciation in any unequivocal sense is really possible, an "expressionist" theory of beauty cannot be maintained in this form. We may accordingly continue to distinguish different elements in the *aesthetic situation* and regard it as an open question whether beauty is not a character of things. Once we have distinguished "intuition" from "expression" it still remains possible to contend, in various ways, that beauty is essentially an expression of the artist's personality, or, in its essential nature, an object of the spectator's appreciative activity; but it becomes quite clear, at the same time, that such hypotheses must be tested by their ability to solve the problem: What is beauty? Specific reasons of an empirical nature must be given by a philosopher who proposes to explain the characteristics of beauty as ontologically dependent on artistic creation or aesthetic appreciation; and the psychologist, in analysing these, and explaining their genesis, must be careful not to encroach on the domain of aesthetics.

I shall illustrate the dangers to which æsthetics may be exposed from the side of psychology by discussing Mr. Alexander's theory of art. In developing an account of artistic creation, he has allowed himself, as I shall indicate, despite his avowed rejection of Croce's views on art, to make statements which can only be reconciled with an "expressionist" theory of beauty. And these statements, it is significant to observe, are not strictly consistent with the explanation he himself offers where he does give explicit reasons for explaining beauty as essentially dependent on mental activity. This I shall attempt to show when I come to discuss his theory of beauty.

I.

What is the relation of the "artistic experience" to its physical embodiment?—that is how Mr. Alexander raises the problem of the nature of artistic creation. The thesis he wishes to support is

"That the artist's work proceeds not from a finished imaginative experience to which the work of art corresponds, but from passionate excitement about the subject matter; that the poet sings as the bird sings, because he must; that his poem is wrung from him by the subject which excites him, and that he possesses the imaginative experience embodied in his words just in so far as he has spoken them."¹

I am not specially concerned in this argument to discuss the merits of Mr. Alexander's view as a psychological doctrine; but it is important for my purpose to criticise his conception of "artistic experience". Assuming the truth of his account of artistic creation, he might have been expected to hold that "artistic experience" is the experience which the artist has of his "passionate excitement" and not an experience of the work of art, whether finished or in process of completion. This experience of the work of art, on the other hand, one would have thought, supervenes upon the "artistic experience" only when the artist has begun to embody his "excitement" in physical form, or, at least, when he has begun to select tentatively out of his vague imagery, forms and combinations which are likely to satisfy his creative impulse. And an experience of the *esthetic object*, whether as an "hypothesis" (*Annahme*), in the preliminary experimental stages of artistic invention, or in the "categorical" form of a finished product, should rather be called, I would suggest, an *esthetic*, or appreciative, experience. But this is not Mr.

¹ *Art and the Material* (Manchester University Press), pp. 11-12.

Alexander's view. He actually tells us that we may best understand

"how this passion or . . . excitement feels, from which the artistic work proceeds and which it satisfies . . . by reversing the experiment and contemplating the work of art itself. The hearer or spectator is thrown by the work of art into what may be conjectured to have been the condition of the artist in which it was produced."¹

For the purpose of this experiment, we may try, as spectators, to recreate within ourselves the experience of the artist in producing a particular work of art, though I am doubtful whether anyone who was not himself an artist in the same *medium* would succeed. But just in so far as we do succeed in this, I should urge, we quite lose sight of the work of art itself; we cease to appreciate its beauty, and we do not have an *aesthetic* experience at all. We shall not be content to remain absorbed in rapt contemplation of the beautiful object, but shall want to go and create another work of art ourselves. This is a state of mind not uncommon among artists and musicians when they try to adopt an *aesthetic* attitude; and when they yield to it, they are thereby disqualified from passing a critical judgment on another artist's work.

In further considering the nature of "artistic experience," Mr. Alexander maintains that it is the

"more or less vague efforts of imagination (felt by the artist in the process of creation) which mislead us into supposing that all the artist does is to translate his images into material form. They are, however, not the artistic experience itself, but preliminary stages of it before the experience is consummated";

and he comes to the conclusion that

"the imaginative artistic experience . . . is generated in and through the expression itself".²

We are bound, of course, to recognise that the artist in the process of creation may adopt the attitude of a spectator in order to correct his work, and must do so when he comes to fashion the rough casting of his heated imagination into a finished article; but for the artist I should make out a correlation between these variable attitudes quite different from that suggested by Mr. Alexander, and corresponding inversely to the "function" I assigned them in the spectator's case. As his experience of vague imagery passes proportionately into an experience of the work of art shaping under his hands, the artist's "excitement" begins to die down; his creative impulse becomes quieted and satisfied; while his

¹ *Op. cit.*, pp. 13-14.

² *Op. cit.*, p. 16.

experience becomes less and less "artistic" and gradually more æsthetic. An artist who has to adopt the æsthetic attitude prematurely in order to stimulate his jaded imagination, and is not carried on irresistibly by the divine *aflatus* is not a great creative artist.

Since Mr. Alexander does not distinguish "artistic" from æsthetic experience, he is enabled to develop an argument on the familiar lines of his "conational psychology,"¹ and arrive at the paradoxical conclusion that

"The actual physical expression is the *sine qua non* of all artistic experience, and that experience is the discovery which comes to the artist himself as well as to the spectator as a revelation vouchsafed to him".²

Just because he takes the physical embodiment to be necessary to an "artistic experience," and because he so closely connects with it æsthetic appreciation, Mr. Alexander supposes that the artist in developing his "artistic experience" is *discovering* his work of art *pre-existent in the objective world*. Thus he entirely reverses the position of his opponents who maintain that all the artist does is to translate into material form or physical symbols an image pre-existent in his own mind. There may be an important sense in which the artist's work is communicated to him as a revelation; but I need hardly point out how impossible it is to square Mr. Alexander's account of this process with the facts of artistic practice if we attempt to extend what may be plausibly asserted of the sculptor³ to the work of the painter or musician.

Mr. Alexander's identification of æsthetic appreciation with artistic creation may be seen to have more dangerous consequences for æsthetic theory when we consider the influence it has on his explanation of appreciation. While it turns the artist into a discoverer, it has the effect of converting the spectator into an inventor. Just as for Croce there is no "intuition" without "expression" so, according to Mr. Alexander, there is no appreciation without creation. Instead of allowing what I believe to be a necessary postulate for the theory of beauty, that the artist *qua* artist is an inventor, and that the spectator as such is a discoverer, Mr. Alexander complicates the issues: and though he gives explicit reasons for maintaining that beauty is not an independent character of things, it is, I think, fair to argue that in coming to this

¹ Cf. *Foundations and Sketch-Plan of a Conational Psychology* (*Journal of Psychology*, IV, Parts III and IV, December, 1911); and *Space, Time, and Deity*, Vol. II, Bk. III, ch. v.

² *Art and the Material*, p. 29, my italics.

³ Cf. *op. cit.*, p. 28.

conclusion he is also influenced by his peculiar interpretation of æsthetic experience. If we cannot appreciate works of art or natural objects without introducing into them elements derived from our mind (to use ambiguous terms), then it *might* appear to follow that beautiful objects are ontologically dependent on mind not merely for being created or appreciated, but for being beautiful. This reasoning would only be valid, however, if we could identify a character with a relation: and the *esse* of the beautiful is no more to be identified with *aestimari*, I should maintain, than the *esse* of things in general with *percipi*. I shall return to this point later when I discuss Mr. Alexander's explicit reasons for holding the beautiful to be in its essence an expression of artistic personality, or essentially an object of appreciation. Meantime, I may observe how surprising it is to find Mr. Alexander, by his employment of a term like "artistic experience", obscuring the distinction on which he elsewhere insists between experiencing and experienced. The general effect on æsthetics of using such ambiguous terms would be to reduce all the different lines of æsthetic inquiry to one, while it is precisely the merit of a genuinely realistic treatment of æsthetic problems that it compels us to separate them.

Waiving further criticism of Mr. Alexander's *psychological* account of artistic creation, I proceed to suggest what I take to be the true relation between theory of art and theory of beauty. If we adopt Mr. Alexander's view, we should hold that certain materials act on the artist's mind and release a creative "spring" (to adopt the Kantian term) which reshapes the same materials or other materials into a work of art. That, I should say myself, does describe very roughly, from the phenomenalist standpoint of psychology, the process of artistic creation. And the work of art, with its peculiarities, does, I should admit, correspond to or express the artist's creative impulse with *its* peculiarities; and because it does so it may provide important evidence for the psychology of "artistic experience". But the work of art is not in its essential nature a creation of the artist. Like a child, its connexion with the parent is severed. It has an independent existence, and can be appreciated by other persons and judged by them to be beautiful or ugly, without reference to the emotional state of its producer's mind and without being used by them as a vehicle for the expression of their own emotions. If this be so, we may conclude either that "expressionism" is false, or that it is not a theory of beauty but only of artistic creation. And since the function of the artist, as such, is to create a work of art, and not, as Mr.

Alexander rightly points out,¹ to use it as a linguistic medium, the theory of works of art (*i.e.* of their beauty or ugliness) is independent of any psychological inquiry into the nature of artistic creation and of appreciation; the field of æsthetics is the nature of beauty and ugliness: and this must be delimited from the field of psychology, and also—I may add—from the field of ethics, the science which studies the “value” of mental activities in general, and, among others, of those which stand in causal and cognitive relations to beautiful objects.²

These, however, are not the lines which Mr. Alexander follows. The solution of the aesthetic problem suggested by his address on *Art and the Material* is remarkably similar to that of Croce; and in this context Mr Alexander appears to be no more anxious than the “neo-idealist” to draw a clear distinction between the *epistemic* and the *constitutive* elements in an aesthetic situation. Both philosophers appear to hold that a work of art is in some sense dependent on the process of creation or creative appreciation for its beauty, and that unless a thing is in some peculiar way a work of art it cannot be beautiful. They both maintain, that is to say—though with differences due to their differing philosophical standpoints—that a work of art not only *has been* created or expressed by an artist but that it *is essentially* an expression of the artist’s mental state.

“By the material of art,” says Mr. Alexander, “I mean the physical embodiment of the artistic experience, whether that embodiment be words, musical sounds, pigments, or stone, the so-called *expression* of the experience in one of the many senses of that word.”³

The sense in which Mr. Alexander uses the word *expression* appears to be the same as that in which it is used by Croce. In an article on *The Artistry of Truth*, Mr. Alexander describes the work of art as follows:—

“In the work of art you mix your own mind with the object, and fine art is the procedure whereby the artist takes up material from the real world—clay, stone, wood, pigments, sounds and words—and by selection, rejection, manipulation, *combines them*—I was going to use a metaphor and say *weaves them*—*into a unity which adds to these materials some thought or sentiment which he desires to express.*”⁴

¹ *Art and the Material*, p. 23.

² The nature of what is called “æsthetic value” raises a problem which I shall discuss in my conclusion, where I shall also have a word to say on the nature of “the sublime” in delimiting the fields of æsthetics and “natural theology” from one another.

³ *Art and the Material*, p. 9. My italics.

⁴ *Hibbert Journal*, Jan., 1924, p. 297. The italics are mine.

It is only in the light of this statement, I believe, that the following quotation may be correctly interpreted as an "expressionist" pronouncement: The

"unity (of a poem) . . . corresponds to and expresses the unity of thought or purpose, in the artist's mind, which distinguishes the creative imagination, the creative passion as we have learned to consider it, from the idle play of fancy or reverie, and arises from the dominant interest of the subject matter which obtains and guides creation."¹

Taken by itself this passage might be taken to mean merely that the characters of a work of art *vary with* the characters of the mental processes which produced them. But my previous quotation shows clearly that Mr. Alexander means that the characters of the work of art in some sense *partake of* the latter. His doctrine appears to be the same as that which Croce is stating in the words:

"what gives coherence and unity to the intuition is sentiment: the intuition is really such because it represents a sentiment, and can only arise from and on the basis of that sentiment".

"What we admire in genuine works of art is the perfect imaginative form which is assumed by a state of soul; and this we call life, unity, compactness, and fulness of the work of art."²

The agreement between Mr. Alexander and Croce would seem, so far, to be complete. What, then, is the difference between them?

In his article on *The Artistry of Truth* Mr. Alexander attempts to distinguish his position from that of Croce by stating that ". . . in my belief, the material (of a work of art) is not merely useful for communication of the artist's intuitions, but vital to them; that he would not have the intuitions without the actual material expression".³ That Mr. Alexander himself realises how very closely his view approximates to Croce's is clear, however, from a passage in *Art and the Material* (p. 17) where he raises the question

"what is the relation between the expression and the experience which it embodies in physical form. Verbally our result agrees with Mr. Croce's doctrine that the artistic or any other intuition is itself expression, but in reality is different from that doctrine. For the expression is for him as much mental as the intuition."

The interpretation of Croce's doctrine implied by these two statements is not, however, quite accurate. For Croce the

¹ *Art and the Material*, p. 26. Compare with this B. Croce's *Breviario di Estetica*, Lezione I, *passim*, especially pp. 33 *ad finem*.

² *Breviario di Estetica*, pp. 42-43.

³ *Hibbert Journal*, Jan., 1924, p. 298.

process of artistic creation is not merely the translation of a pre-existing mental image into an external form, it is essentially what he calls "a true aesthetic *synthesis a priori* of sentiment and image in the intuition."¹ Certainly it is the manipulation for purposes of artistic expression and aesthetic intuition of the mental by the mental. On "neo-idealistic" principles, the "sentiment or the state of the soul is not a particular content, but is the universe as a whole regarded *sub specie intuitionis*".² But he is most emphatic in maintaining that "the sentiment without the image is blind, and the image without the sentiment is empty".³ "A sound or a colour express an image without sound and without colour, a body the bodiless?"⁴ he asks dramatically. "If we take from a poem its metre, its rhythm, and its words, there does not remain, as some suppose, from all that poetical thought: there remains nothing. The poetry is born as those words, that rhythm, and that metre."⁵ If we hold that sounds, colours, words, etc., are physical, not mental, then at once we appear to have before us Mr. Alexander's own view of the relation between "art and the material". The difference between Mr. Alexander and Croce seems to be purely epistemological. By stating "expressionism" in realist terms, Mr. Alexander appears to solve the problem how aesthetic experience is communicable if "intuition" and "expression" are to be identified; but whether he really does so or not, he is at one with Croce in holding that the work of art is essentially an expression of the artist's personality.

II.

In order to develop an "expressionist" theory of beauty which will be in harmony with his general philosophical principles, Mr. Alexander is nevertheless constrained to diverge from Croce's position on interesting and instructive lines. The statement, which I have already quoted from him, that an artist

"combines (the materials of a work of art) . . . into a unity which adds to these materials some thought or sentiment which he desires to express"⁶

could be interpreted literally, I suppose, in the context of Croce's system; but from his own standpoint it is, at the very least, highly metaphorical; and we may well doubt

¹ *Breviario di Estetica*, p. 52.

² *Op. cit.*, p. 53.

³ *Op. cit.*, p. 52.

⁴ *Op. cit.*, p. 55.

⁵ *Op. cit.*, p. 58.

⁶ *The Artistry of Truth: Hibbert Journal*, Jan., 1924, p. 297.

whether Mr. Alexander, any more than Croce, could account for the communication of æsthetic experience if he worked out its implications fully. Comparing this remark with his express pronouncements on the nature of beauty, we have to choose between two alternative lines of interpretation: taken literally it is definitely inconsistent with these more "official" statements; attempt to reconcile its meaning with Mr. Alexander's own peculiar æsthetic, then the terms in which it is couched appear misleading. Whatever be the true solution of this dilemma, Mr. Alexander does not err by raising the problem of æsthetics in the form: What is art? or What is æsthetic experience? when he is discussing æsthetic principles directly. He observes that our ordinary belief in the independent existence of beautiful objects is an obstacle to any purely psychological account of beauty: so he attempts to undermine it by argument, without trying to leave it on one side. The dangerous consequences of using ambiguous terms like "artistic experience" is not, I believe, confined to his psychology of art; yet in discussing the nature of beauty he does presuppose some such division of æsthetic problems as is required for methodical investigation. He certainly wishes to maintain a psychological theory of beauty; but he grants, in effect, that the task of æsthetics is to investigate the nature of beauty, and, secondly, that æsthetic experience is communicable. If these postulates be allowed, then a beautiful object cannot be identified simply with what is expressed-and-intuited: though on these principles beauty may still be explained as in its essential nature either an effect of artistic creation, or an object of æsthetic appreciation, or as due to some combination of these activities which does not amount to a fusion of them into a single act of mind. A monistic account of "artistic" or æsthetic "experience" is no longer possible if these concessions to scientific method are made: and we shall be prepared to find accordingly that Mr. Alexander, just because he does make them, is driven along a dialectical course which starts logically in "expressionism" and ends in an objective and "formal" theory of beauty.

Before discussing Mr. Alexander's reasons for rejecting an objective theory of beauty, it may be advisable to note that the influence of "expressionism" on his æsthetic is particularly evident when he is discussing the beauty of artistic products: when he is dealing with the beauty of natural objects, on the other hand, he explains it rather as being essentially dependent on æsthetic appreciation. These two types of psychological explanation, however, approximate closely, as Mr. Alexander himself indicates. In his article on *The*

Artistry of Truth he prefaces an account of the artist's procedure to which I have already referred, by saying :

"I want to indicate what it is that makes a work of art what it is, what makes the difference between a work of art and a purely natural object : between a tree or a hill as you paint it, or describe it in a poem, or a man as you fashion him in clay or marble, and the tree or hill or man as they exist in nature ; or, what comes to the same thing, only that it raises the question in a more difficult form, between the tree or hill or man as you barely see them, and as you see them when you see them beautiful."¹

The passage shows clearly that in Mr. Alexander's considered opinion the beautiful is *essentially* a work of art and that unless a thing is in some peculiar way a work of art it cannot be beautiful. Why *every* beautiful object is a "work of art" according to Mr. Alexander is explained when we consider that he proceeds on the assumption that beauty can be explained psychologically and that he identifies artistic invention with aesthetic appreciation. The view to which these premises lead him is also foreshadowed by the remarks under consideration. As I shall point out, the secret of beauty, according to him, is to be found in illusion contemplated and enjoyed for its own sake. This explains the peculiar sense in which a thing must be a work of art before it can be beautiful. The artist creates the sort of thing which he or the spectator can convert into a work of art as such by "imputing" to it elements derived from their own mind. In this act of "imputation" artist and appreciator are both inventive. The "work of art," or what might be termed the *aesthetic object*, which is by its very nature beautiful, is not the work of art which the artist (*e.g.* in the case of sculpture or painting) creates in the objective world : it is that work of art when mind is "mixed" with it. Similarly "in appreciation of natural beauty, the object is before the eye, at most the observer omits the features or things which jar. But his creativeness is not limited to omission, for he endows the natural object with his own interpretations."² This is how Mr. Alexander's explanations of beauty as dependent respectively on appreciation and creation come to coalesce: and this is the form assumed by "expressionism" in his philosophy.

Mr. Alexander attacks the view that beauty is a character of things, like red, directly in his paper on *Art and Science* :—

"the difference between red and beauty is this : red is incommensurate with its conditions ; but the conditions of the aesthetic character are

¹ *Hibbert Journal*, Jan., 1924, p. 297. My italics.

² *Art and the Material*, p. 31.

not incommensurate with it . . . I cannot say why vibrations of a certain length look red simply because they appeal to certain characters of the optic nerves. But it does not seem ridiculous to say that a landscape or a bust looks beautiful because it appeals to certain mental dispositions in me which it satisfies. We may, in fact, be able to say that beauty is that which gives a peculiar mode of pleasure because it gratifies a special tendency or want.”¹

By way of criticism on Mr. Alexander's argument here I must remark that in his premises he is referring to the conditions of *recognising* red or beauty, while he draws conclusions bearing on the *existence and nature* of beauty. Now, on his theory of knowledge, *looking red* means being *known* (or supposed) *to be red*; and the conditions of its being known to be red are quite distinct from the conditions of a thing's being red. In consistency, Mr. Alexander is bound to maintain that *looking beautiful* means being *recognised* (or supposed) *to be beautiful*; and he should regard the conditions of a thing's being recognised to be beautiful, similarly, as distinct from the conditions of its being beautiful. He has no right to draw the conclusion that beauty is not a character of things by assuming that the conditions of a thing's being beautiful are the same as the conditions of its being known to be beautiful. He has, in fact, given no reason here for supposing beauty not to be a character of things independent of our reaction to them: and, I should maintain, no such reason can be given consistently with saying that things really do look, (are really taken to be), beautiful. If this can be significantly asserted, then, as shown by Mr. Moore, we cannot identify the proposition “*x* is beautiful” with the proposition “*x* appeals to certain dispositions in me,” or, “*x* gratifies a special tendency of mine”.

In his article on *The Artistry of Truth*, again, Mr. Alexander presents us with the argument that beauty is not a quality of objects because we have no specific organ for perceiving it as we have for perceiving sound and colour.² If this is to be taken as a serious refutation of the objective theory of beauty I must reply that it would at the same time refute Mr. Alexander's own view that we have a direct apprehension of space, time, and the categories. A reference to this theory of his or to the theory of knowledge advanced in Plato's *Theætetus* (184B-186D) should suffice to dispose of any argument from the absence of a specific sense organ against the contention that beauty is a character of things. An argument of this type is not even sufficient, I believe, to refute the

¹ *Journal of Philosophical Studies*, Vol. I., No. 1, pp. 6-7.

² *Hibbert Journal*, Jan., 1924, p. 298.

theory that beauty is *a quality of things like red*; but in holding that beauty is *an independent character of things* it is not necessary, I may remark, to maintain that it is in the same category of being as a quality.

Mr. Alexander suggests, in the passage from his paper on *Art and Science* which I have discussed, that beauty is relative to the spectator's appreciative cognition: since, as a matter of psychological principle, he does not separate cognition from conation as distinct mental faculties, he is enabled to state the same view by saying that beauty is relative to "a special want or tendency" of the spectator. His insistence on the close connexion between cognition and conation would lead us to expect him to give a similar sort of explanation from the artist's standpoint,—quite apart from the identification of appreciation with creation which permeates his theory and which he nowhere justifies. The theorist may, indeed, attempt to explain beauty as dependent on what I shall term the *extrinsic* mental factors in an aesthetic situation from two different points of view. An object may be held to be beautiful "because it appeals to certain mental dispositions in me which it satisfies,"¹ or its beauty may be explained as due to "some thought or mood which is imported (or) . . . imputed by the spectator".² Similarly, an object may be said to be beautiful because it expresses the creative impulse of the artist or because it satisfies it. From the one point of view the mental factor is regarded as active towards the object; from the other it is considered rather as passive. It is an explanation of beauty as dependent on artistic creation in the latter sense that I discover suggested in the following statement:

"The purpose of art is to create beauty which is pleasant, and beauty is not a mere means of pleasure but of satisfying the artistic hunger; in the same way as the purpose of food is not to provide the pleasure of eating but to satisfy material hunger".³

After what I have said before, I need not produce special evidence to show that Mr. Alexander really means here that the beauty of an artistic product is dependent on its satisfying the artist's creative impulse; and my criticism of the corresponding view, that "a landscape or a bust looks beautiful because it appeals to certain mental dispositions in me which it satisfies" will apply, *mutatis mutandis*, to this contention. A work of art may correctly be said to satisfy the artist's

¹ *Art and Science : Journal of Philosophical Studies*, Vol. I, No. 1, p. 7.

² *The Artistry of Truth : Hibbert Journal*, Jan., 1924, p. 298.

³ *Journal of Philosophical Studies*, Vol. I, No. 1, pp. 8-9.

craving for expression; but that does not imply that its beauty must be explained as relative to his craving.¹

Though Mr. Alexander accompanies his arguments against an objective theory by suggesting that beauty is *relative* to aesthetic appreciation or artistic creation, he formulates his own peculiar theory, I conceive, rather in the view that beauty is essentially *expressive* of the artist's or spectator's personality. A remark on his attitude towards Croce's doctrine of the essential *liricità* of art will indicate how Mr. Alexander's position here is to be distinguished from that of the "neo-idealistic". All art, and all aesthetic experience, according to Croce, is an expression of our emotions as artists or appreciators; that is, all art is in the form of a lyric and we cannot appreciate a work of art without expressing our own emotions in it. To this Mr. Alexander rightly replies in *Art and the Material* (p. 18, note 1) that Croce is ignoring

"the difference between passion as the source of the work of art, and passion as entering into the work of art." "I cannot help feeling" he adds, "that the work of art is not lyrical unless it is a lyric".

In making this distinction clear he has raised a specific objection to "expressionism" of great importance. Croce is indeed justified in maintaining that to classify works of art according to their subject-matter leads us no distance when we are investigating the nature of beauty; but the force of this contention is cancelled by his insistence on the essential *liricità* of art. Since we can distinguish between works of art into which human feeling enters as an intrinsic element and other forms of art, a work of art cannot be in essence an expression of human feeling. Mr. Alexander accordingly restates the view that a work of art is essentially expressive of the artist's personality in his article on *Art and Science* :—

¹ It is not quite clear whether Mr. Alexander means by "artistic hunger" here the artist's desire to obtain satisfaction by creating a work of art or the connoisseur's craving to possess and enjoy works of art. His analogy suggests that he is thinking of the consumer rather than of the producer, but the context leads me to give an opposite interpretation. He means, I believe, by satisfaction of "artistic hunger" the same as what he means by the term "satisfaction of the creative impulse" when he says "we may distinguish science and art from one another as being, . . . , the second, the *satisfaction of the creative impulse*" (*op. cit.*, p. 9; my italics), or, by the words "satisfies his impulse to creation" in saying that a *work of art* is "expressive [of the artist] in the sense that it *satisfies his impulse to creation or creative representation*" (*op. cit.*, p. 10; my italics). Mr. Alexander's argument here, as a whole, throws light also on the connection and distinction between the notions of "expression" and "imputation" which he employs in explaining beauty psychologically.

" . . . though art is self-expression, it is something more. It means the fashioning of existing material so as to be significant, through the importation of elements supplied from the personality of the artist, where under personality are included not merely emotions nor even principally emotions, but thoughts and fancies patent or latent—whatever stirs this mortal frame."

Again

"the sculptor feels his own life, it is said, into the block, . . . he imports into that block not his own life, but life; but he supplies the life from himself."

Further

"Art is expressive, in the proper sense, of the subject which the artist is representing. The horses of Phidias are alive and alive through the life imputed to them by Phidias, but what they express or are expressive of is horses in certain significant attitudes."¹

Before discussing the theory suggested in these remarks I must observe that Mr. Alexander consistently with his own distinction between "passion as the source of the work of art and passion as entering into the work of art" should have avoided any recourse to the notion of *Einfühlung* in discussing aesthetic principles. The *Einfühlung-Theorie*, I believe, influences Mr. Alexander's selection of examples in the last two statements I have quoted. Its influence is responsible for his laying emphasis on vitality as an essential ingredient in the beautiful; and his curious preoccupation with sculpture, as if that were a typical art, may be accounted for as due to the same influence. His interpretation of sculptural beauty must certainly be laid to its account. I can only explain on this hypothesis why Mr. Alexander assumes that we must see the *Hermes* of Praxiteles "alive and divine" in order to appreciate its beauty. Mr. Alexander is obviously presupposing the truth of this theory when he maintains that we, as spectators, must impute "life and divinity" to the statue. Granted, however, that it is necessary to imagine the statue as alive and divine, then, I should say, the *aesthetic object* which the sculptor meant us to appreciate would *really be the illusory figure* of a pagan god; and the question whether this object is beautiful or not would be quite independent of the question how we became aware of such an object. But I very much doubt whether we do need to impute life and divinity to it in order to "see it beautiful". Whether Praxiteles meant us to impute life and divinity to his *Hermes* I do not know: probably he did, since he was creating an object of religious veneration as well as a work of art. But it is not necessary

¹ *Journal of Philosophical Studies*, Vol. I., No. 1, p. 10.

for us to adopt even in fancy the attitude of "a Pagan suckled in a creed out-worn," and set ourselves to worship the son of Maia, before we can appreciate the beauty of his image. What we admire in the statue, I should say, is essentially the harmonious combination of planes and solids in its structure, and the distribution of light and shade on its surfaces. To think of the graceful limbs and soft contours of the marble body as palpitating with life and radiant with divinity is not to take up an æsthetic attitude at all; it is nothing more or less than vicious romanticism.

After repudiating Croce's doctrine of *liricità*, Mr. Alexander should thus have completely rejected the *Einfühlung-Theorie* for two reasons. (i) Just as artistic creation is not essentially lyrical unless the artist is creating a lyric, so æsthetic appreciation need not involve any "imputation" of vitality unless the work of art really demands it. (ii) No work of art need necessarily demand such imaginary *vitalisation* by the spectator, because, just as a work of art need not be a lyric, so it does not contain life as an essential element in its "matter". Thus there is no necessary reason so far as these considerations go why a *physical* object as such, e.g. a block of marble, a temple or a landscape, should not be beautiful; though I am not bound to deny that there is some genuine sense in which painting or sculpture may be said to express life and character when life and character enters as an *intrinsic* element into their material. And I should admit that in appreciating sculpture and painting of which the condition holds, it is necessary for the spectator to "impute" life and character to the physical work of art. This is particularly true when the work of art to be appreciated is intended for a portrait. As Mr. Alexander says:

"in the statue of me my character is introduced into the meaning of the marble by the artist who makes the statue, or of course by the spectator who follows, as it were, the artist's mind and whom the artist has supplied with the intelligent or sympathetic eye."¹

Stated in more literal terms this remark conveys an important psychological truth. But I must insist, as I did in discussing the case of the Hermes, that the spectator (or artist) in "imputing" life and character to a marble block is in no significant sense "importing" beauty into it. The question still remains to be answered whether the block when mind is "mixed" with it is beautiful; and the answer to it must depend primarily on considerations of form and design.

But Mr. Alexander does not employ the notion of *Einfüh-*

¹ *The Artistry of Truth : Hibbert Journal*, Jan., 1924, p. 298.

lung indiscriminately in explaining every type of beauty. He carefully points out that :

"The imputation of life and character enters into the expressiveness of the beautiful object only when that object means life and character."

"The expressiveness of the work of art," he says again, "is to be itself, to be what it represents, to have the significance appropriate to it; for the *painted* animal or tree to *seem alive* and to grow or move according to its kind; for the *drawn* cube to *look solid*; for the pillar to *seem* (and to be) perfectly adjusted to support the weight it bears, and to bear it with ease."¹

When Mr. Alexander's explanation of beauty as essentially an effect of the spectator's "imputation" approximates most closely to the *Einfühlung-Theorie*, it may be ascribed to his preoccupation with the peculiar conditions influencing our appreciation of sculpture: in its more general form he seems to base it empirically on the special factors entering into our appreciative cognition of painting. About the beauty of painting he says that :

"The more perfect the artistry the more definitely does the work of art present in suggestion features which as a cognised object it has not. Mr. Berenson compares the two Madonnas that stand side by side in the Academy at Florence—the one by Cimabue, the other by Giotto. The Cimabue Madonna is flat and looks flat, though otherwise beautiful. *The Giotto is flat but looks tridimensional, and so far is the more perfectly beautiful.*"²

The essential condition for the presence of beauty in an "artistic experience," according to Mr. Alexander, would thus seem to be the fact of illusion contemplated and enjoyed for its own sake. In judging a thing to be beautiful, we do not predicate beauty of it: our predication of the term "beautiful" can be reduced, so he suggests, to expressions like "I see this painted form alive," or, "I see this form solid".³ To account for Mr. Alexander's adopting so curious a view, I am obliged to suggest that he has been misled by the quite accidental circumstance that in order to appreciate a picture we must interpret it in three dimensions, into concluding that interpretation or imputation is the essential condition of beauty. He explains the joy of beauty, in effect, as characteristically identical with our childish and non-aesthetic delight in a diorama or in the effects which may be produced through manipulating a kaleidoscope. I should not for a moment wish to deny that imputation plays an important part in our appreciation of painting. Clearly, the "picture" which a

¹ *Space, Time and Deity*, Vol. II, 291-292.

² *Op. cit.*, p. 288. My italics.

³ *Cf. op. cit.*, pp. 244-245.

painter means us to appreciate is not a flat surface but the illusory three-dimensional field that appears when we look at the physical picture. But once more, I must insist, as in the case of sculpture, the work of art has been so prepared by the artist that only the illusory object suggested and not the object which is actually present is intended to be the object of æsthetic appreciation. Though it may be necessary in order to obtain this æsthetic object to add illusory elements to those already present in the physical work of art, it is this new complex which is either beautiful or ugly; and if we found such a complex without requiring to "impute" anything to it, that also would be either beautiful or ugly. Thus "imputation" does not introduce beauty into things: it simply enables us to imagine things which *are* beautiful. In any case, in "imputing" illusory elements to a physical work of art we are not "mixing" mind with it. The æsthetic object, *qua* imagined, may be so far mind-dependent; but surely the "thoughts and fancies" (*i.e.* the illusory elements *thought and fancied*) which we import into the object are not "supplied from the personality of the artist" or spectator!¹

To disprove the hypothesis that all beautiful objects are illusory objects contemplated for their own sake, (and to show that illusion is not a necessary condition of beauty), I must simply appeal to experience. Illusion does not enter into what we appreciate when we are listening to a fugue of Bach or a symphony by Beethoven; and yet such works of art are supremely beautiful. It is in reference to music, indeed, that the inadequacy of Mr. Alexander's theory, (and of any type of "expressionism"), is displayed most strikingly. "Expressionism" may satisfy the student of literature as a working hypothesis for critical interpretation, but, without making any invidious comparison, I think I am right in saying that most competent musical theorists, as well as "art-critics," are united in quietly ignoring it. Music may have a romantic and even a profound religious significance which the philosopher must not overlook; but, regarded from a strictly æsthetic standpoint, its beauty consists essentially in rhythmic, melodic, harmonic and contrapuntal structure.² I may dis-

¹ Cf. *Art and Science: Journal of Philosophical Studies*, Vol. I, No. 1, p. 10. My italics.

² I should maintain myself that music, and not sculpture, as Mr. Alexander assumes, is the typical art from which we should derive our æsthetic principles. Pater is right, I think, when he says, in his essay on *The School of Giorgione*, that "all art constantly aspires towards the condition of music." Music is the pure, the *a priori* art, just as mathematics is the pure and *a priori* science. The general conditions, that is to say, by fulfilling which any natural object or work of art can alone be

prove the hypothesis that all illusory objects contemplated for their own sake are beautiful, (and show illusion not to be a sufficient condition of beauty), by referring again to those optical illusions which may be produced through the kaleidoscope. If it be objected to me that such optical illusions may be and commonly are beautiful and that the kaleidoscope is actually employed in applied art for suggesting designs,—my whole point is conceded. Here again, the specific optical illusions which suggest decorative designs are selected for that purpose not because they are *illusions*, (still less because it is entertaining to manipulate a kaleidoscope), but because they satisfy certain peculiar conditions of colour-harmony and form.

Mr. Alexander's theory of a necessary connexion between beauty and illusion is further contradicted by the existence of ugliness. Taking the case of painting, everyone not prejudiced by a theory would admit that some pictures are ugly: but this cannot be so if "imputation" is necessary for appreciating a picture, and "imputation" is the mark of beauty. On Mr. Alexander's view the "imputed" or the illusory enjoyed for its own sake is necessarily beautiful (just as for Croce the expressed-and-intuited is necessarily beautiful); thus the fundamental æsthetic distinction between beauty and ugliness disappears. Either a thing is a *work of art* and is therefore beautiful, or it is not a *work of art* and is simply non-beautiful. A way of meeting this difficulty is suggested by the following passage from Mr. Alexander's discussion of *Beauty and Ugliness* in Space, Time, and Deity (Vol. II, p. 293):—

"The beauty of the beautiful object lies in the congruence or coherence of its parts. According to the ancient doctrine it is the unity within that variety. Of these elements some are intrinsic to the beautiful thing and some are imported from the mind and thereby belong to the thing; and it is a condition of the beauty that its external form must be such as to bear and compel that imputation. . . . In virtue of the harmonious blending within the beautiful of the two sets of elements, some existing in reality and some supplied by the mind, the unity in variety is also expressive or significant. The beautiful satisfies both the ancient and the modern criterion; and a new reality is generated in which mind and

beautiful are most clearly exemplified in music. We may accordingly regard the painter, the poet, the sculptor and the architect as *making* music in colours, words or stone, and the lover of "nature" as *finding* music in the relations of colour and form which constitute a landscape a natural, (or *supernatural*), work of art.

the non-mental have become organic to each other, not in the sense that the beautiful necessarily contains mind, though it may do so, *e.g.* in a picture of a man, but that its expressiveness is due to the blending of elements supplied from two sources, and the external beautiful thing is beautiful through this fitness of the externally real elements to their expressiveness."

If harmony is a real property of the beautiful, I may comment, then, so far as these considerations go, there is no need to deny beauty to nature. There could only be this need were "imputation" or the relation of mind-dependence in general necessary conditions of beauty; and, so I have tried to prove, mind-dependence is neither a necessary nor a sufficient condition of beauty. As Mr. Alexander himself recognises, mind need not function as an *intrinsic* factor in the æsthetic situation: but if "its unity in variety" does happen to be "expressive or significant" of life or mind, it is not beautiful *because* it expresses life or mind; and lastly, above all, it is not beautiful because it is "expressive or significant" of the artist's or appreciator's personality.

The results of my critical examination of Mr. Alexander's æsthetic and psychology of art may be summed up in three propositions. 1. The *artist creates* a work of art. Though in so doing he may be said to express his emotions, emotional expression is the "spring" and not the "motive" of artistic creation. 2. The *spectator discovers* the beauty of a work of art or natural object. Though he may have to "impute" illusory elements to a physical reality in order to contemplate an æsthetic object, the beauty of this object is not essentially an effect of his "imputation". 3. The field of æsthetics is the nature of beauty and ugliness, considered as characters belonging to objects independent of a creative or appreciative mind.

My present argument reaches its conclusion when I have defined what I believe is the true field of æsthetics: and it is not my intention to indicate more fully here what I take to be the defining characteristics of beauty. Some attempt must be made, however, to delimit the field of æsthetics from those of ethics and "natural" theology, partly to complete the argument and partly to dispel certain prejudices which exist against the view that beauty is an independent character of objects. In opposition to this view it is sometimes argued that beauty is a "value," and, since it is absurd to suppose that material objects have value in a world where no minds exist, that

beauty cannot belong to objects in their intrinsic nature.¹ To test the premises of this argument would require a lengthy analysis. I must be content to suggest on what lines my own view may be defended against these contentions. If we must predicate "value" *univocally* of beautiful objects and spiritual activities, I should agree that it is absurd to attribute "value" to material objects in a mindless universe.² There are, however, at least two alternatives between which to choose before abandoning the view that beauty is a character of things. We may hold that beauty is not correctly described as a "value" at all, and that "value," or goodness (to adopt the older and more satisfactory term), is predicable in an aesthetic situation only of mental activities like creation or appreciation which are related to the beautiful. If, on the other hand, we adopt the Aristotelian and Thomist conception of an "analogical unity,"³ we may say that "value" is predicable of beauty by analogy, or in a derivative sense, while "moral value" or goodness is predicable only of human activities.⁴ On either of these two views justice may be done to the conception of "aesthetic value"; yet beauty may still be regarded reasonably as a character of things; while the relation of aesthetics to ethics may be clearly and distinctly conceived.

Similar objections are brought against the view that beauty is a character of things by philosophers of the Platonic school who see in beauty a revelation of the divine. They maintain that unless natural beauty in particular is regarded as in its essence an expression of the Divine Artist's creative activity, it is inconceivable. Yet this contention is not implied by their philosophy; and in advancing it, I should maintain, they are simply placing a stumbling-block in the way of those who are anxious at all costs to vindicate the autonomy of "secular" values. Though I agree with them in holding that the sensuous beauty of colour and sound has a transcendent significance, it is, I should suggest, in the "sublime" rather than in the beautiful that we are granted a revelation of a supernatural realm which interpenetrates and yet trans-

¹ Cf. W. R. Sorley, *Moral Values and the Idea of God*, pp. 118-119 and *passim*.

² Complications would also arise in the "theory of value" on this assumption from the fact, illustrated in history, the novel and the drama, that some evil personalities, real or imaginary (e.g., Cesare Borgia or Iago) are beautiful.

³ Cf. A. E. Taylor's *St. Thomas Aquinas as a Philosopher*, Oxford, Blackwell, 1924.

⁴ It is equally difficult to interpret the statement that truth is a "value" if we hold that all "values" are *species* of a single *genus*.

cends the natural.¹ The "sublime," I should maintain, falls within the sphere of "religious experience," which is part of the field of "natural" theology;² and we must recognise this quite clearly, I should insist, if we are to do justice to the claims both of the Divine and of the beautiful upon our devotion. Doubtless we cannot respond single-mindedly to these different claims; and, surely, it is our fate, as denizens of two worlds, to be torn continually between divergent interests. But a philosophy which confuses the distinction between beauty and the Divine, can satisfy neither our religious aspirations nor our artistic tastes.³ *Aestheticising* religion and *spiritualising* art can have none but pernicious effects on the relevant branches of theory and practice; and, accordingly, æsthetics must be assigned an autonomous position distinct from, even if subordinate to, that of theology in the scientific hierarchy.

¹ The contrast between the poetry of Dante, Wordsworth, or even Shelley and that of Keats throws light on my thought here.

² Cf. R. Otto's conception of the *numen tremendum* in *Das Heilige*.

³ The consummation of this at all times prevalent tendency is well represented just now in "neo-idealism"; cf. *Contemporary Thought of Italy* by Angelo Crespi.

III.—THE EXPERIMENTAL METHOD AND RELIGIOUS BELIEFS.

BY HOWARD DYKEMA ROELOFS.

WHEN Plato in the *Timaeus* gives what is in part a religious account of creation; and when, as in his myths, he talks of death, judgment, and the life to come, his appeal for the acceptance of these "likely stories" is in the end to faith. Reasonable grounds for faith may indeed be offered. But that the beliefs are true, is not regarded as susceptible of scientific demonstration. Similarly the great theologians of the Christian Church have recognised and taught that many of its doctrines, and these of the highest importance, must be accepted, if at all, by an act of faith. It need scarcely be pointed out, that much of what is to be accepted by an act of faith, is fairly described as super-natural, that is, involving events and agencies not commonly found in our experience, often not found at all in the experience of most of us.

Yet these supernatural events and agencies are asserted to be specifically related to our normal experience. Of some of them it is asserted that they had or will have historic occurrence. It is this which so persistently provokes the question, what grounds are there for accepting these assertions as true? The mere fact that demonstration is not claimed, that the appeal is to faith, does not mean it is unnecessary or impious to ask what vouches for the truth of these assertions. By what method can we determine which are worthy of our faith, which are not?

The consensus of mankind, the general satisfactoriness of the solution these doctrines offer to otherwise unsolved problems, the authority of tradition, Church, or State—these and other answers to our question have been given. In our own time, a new answer is offered us. "Religion must come to terms with science." "The Church must adopt the experimental method." These are the now familiar admonitions used to attract our attention to this new method for settling the problems of religious belief. We read and hear these admonitions everywhere, in periodicals both general and religious, in lectures, in the pulpit. They express the con-

victions of a large and vigorous group of moderns whose secular enlightenment has not dimmed their interest in religion. These people find the Church impotent, religion itself dying. To them it is obvious that the utilisation of scientific method is the one thing needful for religion.

It is easy to say that religion must adopt the method of science. It has the right sound, makes a good slogan. But to use it as a slogan does not tell us what scientific method is, much less how religion is to use it. Religion and science are not, one ordinarily thinks, trying to do similar things. Diversity of aims implies diversity of methods. For a method is a specific way of doing something. It follows that no method can be divorced from that for which it is a method. It would be futile to try to apply a given method, very successful for doing one thing, to an essentially different problem. It is true that one method can be used to solve many problems —true, provided the problems, though many, are all of the same sort, *that sort* for which the method is *the* method. Otherwise the method cannot be transferred. It is of no help to a farmer for a book-keeper to say to him: This is my method for multiplying figures, multiply your wheat in the same fashion. Though there is meant to be increase in both cases, the things to be done, multiplying figures and multiplying wheat, are not of the same type. Hence the method, so useful in the one case, is inapplicable to the other.

These seem to be sensible, even elementary observations. They suggest that if these admonitions to religion and to the Church are to bear fruit, certain preliminary information is needed. We need to know what scientific method is, the type of problem this method can solve, and those religious problems, if there are any such, which, being of the same type as those dealt with by science, are amenable to scientific method.

I have yet to find satisfactory answers to these questions in current discussion. In fact, it seems to me that those who are most forceful in admonition, are here quite silent. Accordingly, I propose, in what follows, to investigate these very matters. For until they receive an answer, urgent advice to use scientific method in religion may win applause, but it will be barren of results.

At the very start I hear an objection. The questions I ask, it is said, are at once unnecessary and contrary to the true spirit of experimentalism. That spirit is to try; and having tried, to abide the issue. Am I not asking that the application of scientific method to religious problems be judged before it is tried? Whatever plausibility there is in this

objection, arises from a confusion of the experimental attitude with the method of experiment. The attitude itself does include, no doubt, a readiness to submit everything to the test of experiment if that be possible, and to accept the result. But the method of experiment—the procedure one is to follow in harmony with the experimental attitude—is no longer the haphazard trying of everything on anything. In fact, the appeal to scientific method implies that this method already exists as something determinate and known. It is not prejudging the issue to acquaint ourselves with this method, to consider in what situations this method is likely to bring success, and to determine what sort of answers its use can give. There is, in fact, a name for just this sort of survey of a problem, a name in good repute among experimentalists. It is called the ideal experiment—the experiment in idea or in imagination. By doing this we can avoid much labour otherwise lost. Let us call our present enterprise, then, an ideal experiment in the application of scientific method to religion.

In these introductory paragraphs, I have used interchangeably the phrases 'scientific method' and 'experimental method,' a usage sanctioned by current practice. But we now need to know more definitely just what it is we are to investigate. Scientific method is the more inclusive term. It includes the method of experiment, but it includes much more. Einstein's theory of relativity, for example, is a fruit of scientific method. Insight, speculation, the methods of mathematics, and those methods, whatever they may be, by which the mind constructs a coherent system—all these played a part in the creating and working out of this theory. But experiment, in the narrower sense of the term, presumably played but a small part, if any.¹ Yet my impression is that when religion is told it must use scientific method, it is really the experimental method which is meant. And it is that which we shall consider.

A further differentiation might be drawn between the method of experiment proper and the method of observation. The chemist manipulates his material. The astronomer does not manipulate his stars and planets, he observes them. Yet both submit their hypotheses to what is commonly called the experimental test, both use the experimental method. What is the essence of that method? "Whatever assertion you may make to him (the experimentalist) he will either under-

¹ Of course, only the development of the theory is here referred to. The verification of the theory is another matter, and involved a kind of experiment.

stand as meaning that if a given prescription for an experiment ever can be or ever is carried out in act, an experience of a given description will result, else he will see no sense at all in what you say." In this sentence Charles Peirce defined what an experimentalist can make sense of when you talk to him. But it also defines the sort of information which the experimental method seeks to obtain. And that is the first thing we need to know about a method in order to understand it. We need to know that *for which* the method is a method.

The sort of information defined is that which tells us that there is a constant correlation between doing something and the experience consequent to the doing. The crucial word is 'constant'. Suppose I have a ball in my hand and I let it go. The ball drops to the earth. Grant that I know what I did and the experience which followed. Knowing that does not enable me to make a sensible statement to an experimentalist. All I so far know is a particular, an individual correlation. What the experimentalist requires is a *general* statement of the form, if so and so is done, such and such will follow. And I can say to him, if a ball is let go, it falls to the earth, only if I know that the correlation between letting it go and its dropping to the earth is a constant correlation.

The assurance which the experimentalist tries to obtain, which he has attained in certain sciences, that certain correlations are constant, rests in the end on one main fact, repetition. The very meaning of the idea of constant correlation, the idea essential to the generality of the *if this, then that* formula, is dependent upon the prospect of repetition. The prescription for any experiment arose out of an actual experience. A dropped ball did fall to earth. But to describe this and say, if a ball is dropped, it falls to earth, is surely inept, unless one has in view the possible repetition of dropping a ball. We need not enter into the refinements of experimental technique, the standards for measurements, the instruments for applying them. They enable the experimentalist to state his correlations with precision. More, and much more important, they enable him to find repetitions where otherwise he would find only differences. Not only balls are dropped, but bombs and snow-flakes. These differ in weight, in the height from which they fall, etc. But each time anything falls, falling is repeated. Science has found a constant covariation between the very factors which vary in the many repetitions of this one event, falling. It is this constancy which is expressed in what we call the law of falling bodies. The significance of this law, the value of this constant correlation, rests

upon the fact that in our experience there are many instances of falling bodies, and upon the prospect of further repetitions.

We reach the same conclusion when we ask, what meaning the experimentalist finds in any conclusion established by his method; what meaning he looks for in any assertion offered him, regardless of its origin. "Water is H_2O ." This means to the experimentalist, that if a sample of water is properly analysed, it will yield hydrogen and oxygen in the proportion of two to one. The meaning involves in idea, if not in fact, the repetition of the analysis out of which the assertion arose. Or let the assertion be one of this sort, pronounced by an alleged moral authority, ". . . if thine enemy hunger, feed him; if he thirst, give him drink, for in so doing thou shalt heap coals of fire on his head". To the experimentalist this means precisely, that whenever a man succours his enemies he heaps coals of fire on their heads. The prescription may involve further factors, assumed and not stated. These may be covered by such phrases as, other things being equal, or, no preventing factor being present. But the main point is that if this claim makes sense, its truth is general. Hence it is the legitimate, as it is the sole, method which the experimentalist can accept, to test this assertion by finding a hungry enemy, feeding him, and then looking for the coals. Both meaning and test involve, in idea or fact, repetition. Otherwise, in the words of Peirce, the experimentalist can find no sense at all in the assertion.

This exclusive attention to the aspect of repetition in our experience, is not necessarily due to the experimentalist himself having any ingrained disdain for or disbelief in the unique. But it is a necessary consequence of the exclusive use of the experimental method. In fact, the phrase, *what is repeatable*, denotes accurately the field within which this method is useful. When this method is used as an instrument of discovery, it aims, as we have seen, at discovering constant correlations. And constancy is exhibited only in a plurality of instances. When this method is used to test any assertion claiming to be true, the test is substantially to endeavour to reproduce in whole or in part what is asserted. If the attempt succeeds, if the facts in the reproduction run along in harmony with the assertion, the assertion is said to be verified; if not, it is said to be proved false. If one experiment is inconclusive, another is attempted. And all this requires that we deal with what is repeatable.

Of course, a person may attempt something at random, something presumably never attempted before. We may use massage cream in making cream of tomato soup, observe the

result, never repeat the experiment, and claim we have obtained knowledge of a unique event by using the experimental method. But this unique concoction of tomato soup is only accidentally unique. If the account of the result is doubted, the correct procedure is to repeat the experiment, preferably with the doubter for a witness. We are still working within the field of what is repeatable.

In a sense, of course, no event is repeatable, each event is unique. A second performance is not the first, hence the first is not repeated, but duplicated, more or less. The ordinary person, however, is not often bothered by this distinction, and ignores it in his use of the word "repetition". But the events of the past, considered as a sequence each member of which has its own locus in space-time, are all thus essentially non-repeatable. Yet we ordinarily claim to have knowledge of the past, and we are constantly wishing to test various phases of that knowledge. We think we know that Cæsar crossed the Rubicon in 49 B.C. But did he? Is there any way in which we can use the experimental method to test the truth of that assertion? It is obvious that if anyone doubts the statement, we cannot produce Cæsar and have him recross the river. Even if we could do that, that would not prove that he did cross the Rubicon in 49 B.C. How, then, can we use the experimental method to test our knowledge of past events?

It goes without saying that the direct employment of this method must be with regard to present events, that the normal outlook of the method is to the present and the future. But may not results, experimentally established results, serve as criteria of the truth of accounts of past events? Practice supports an affirmative answer. Accounts of eclipses in the past are rejected or corrected on the basis of astronomical formulae obtained in the present. We often hear the phrase "scientific method" in connexion with historical investigations, although the phrase may not mean experimental method in the sense in which we are using it. And it is certain that many people say they reject the alleged historical event called the Virgin Birth, on the basis of present-day biological science. It is, then, of prime importance to investigate the ways and the value of using experimentally established conclusions as criteria of historical truth.

At the start of such an investigation we come upon something of a paradox. Although these experimentally established conclusions are based in the first instance on actual occurrences and are significant primarily with reference to prospective repetitions, in themselves these con-

clusions are without direct existential import. What they assert is a correlation, and it is only the correlation which is asserted, never that the things or events exist which exhibit the correlations. This is recognised in the common remark that scientific laws are properly hypothetical in form. To quote Peirce once more, a sensible assertion means "if a given prescription ever can be or ever is carried out in fact". *If it is, not, it actually is.* The law of falling bodies does not tell us that there *are* any bodies falling. From the truth that water is H_2O we cannot infer that there is any water. *If there is any water, then it is H_2O .* But that *there is water*, is not asserted.

Our normal world is so full of actual instances of what is referred to by scientific laws, that we rarely have difficulty in going from the law to an existing instance. For the most part we are not even aware a transition has been made. Yet it must be made if the law is to be applied. And the element of existence is something given, given by experience itself, independently of, and never *by*, the law describing the experience.

No scientist would deny this. But what does it signify? Galileo is said to have dropped two unequal weights from the leaning tower of Pisa with the then shocking result that they struck the earth together, instead of the heavier landing first. We have since verified the law implicit in that experiment. But our verification does not prove that Galileo dropped his weights. It proves only that *if* he did, we have reason to believe the rest of the story is true.

That illustrates the extent to which we can use experimentally verified laws as criteria of reports of events in the past. This use is legitimate and fruitful. But it is conditioned in two ways. Bare existence in the past must be given or assumed independently of the criterion. Mere occurrence or non-occurrence in the past cannot be determined either by an experiment in the present or by any law learned from such experiments. Before we can judge the report of Galileo's experiment, we must know or assume that he did drop something. That is the first condition. The second is this: We must have at least a partial determination of the alleged past event, a determination given, once more, independently of our criterion. In the Galileo case a pellet of lead and an inflated bladder would not illustrate the law. Hence we must know or assume that his weights, while unequal, offered substantially the same air resistance. If these two conditions are satisfied—if we are assured, first, that Galileo did drop something, and, second, that the things

dropped were as described, then, and not till then, can we use our criterion, the law of falling bodies, to judge the rest of the story. In sum, if an experimentalist were asked what he knows of the Galileo affair, he ought properly to reply, '*I believe* that Galileo dropped such and such weights, and *I know* that, if he did, the rest of the story is true'.

Both of these conditions are often forgotten. Let us consider, then, one more illustration in order to bring out the precise limitations they set to the use of experimental laws as criteria of accounts of past events. We may take it as established that red litmus paper turns blue in basic, and blue litmus paper red in acid, solutions. Suppose an experimentalist is confronted with these accounts: Sometime in the past, it is said, a bit of blue litmus paper was put in a solution, said to be basic, yet the litmus paper turned red. The second account agrees that litmus paper was put in a solution and changed colour, but has it that the paper was red to start with, was put in an acid solution, and turned blue. The third is a later account, and it asserts both the others are false, that there wasn't any litmus paper put into anything at all. What can the experimentalist say? First, he cannot judge between the first two and the third. He cannot pass judgment on a question of bare existence. This illustrates the limitation imposed by our first condition. But let it be granted that something of the kind did happen, what then? Can he deny the first account and correct the second, saying the litmus paper was red as claimed, turned blue, but that the solution was basic? Or can he deny the second and correct the first? He can do neither. He can say that *if* the paper turned red, the solution was acid; or *if* the solution were basic, the paper turned blue; and *vice versa*. But he cannot use the colour to determine the solution, nor the solution to determine the colour. For *both* are in question. Let him be assured what the colour was, or what the solution was, and he can judge and even correct the rest of the account. Lacking that assurance, his judgment is tied. What was the *colour*? Or what was the *solution*? The answers to these questions must be given or assumed before the experimentally established criterion can be used. This is our second condition.

It may be urged that the situation is not quite so hopeless for the experimentalist. Every actual event has its consequences, and these consequences further consequences. Hence it would seem to be theoretically possible, through careful examination of present events, to discover evidence determining the actuality in the past of some events the

accounts of which have been questioned. That method is in fact more or less employed in such sciences as astronomy and geology. And there are constant efforts to employ it in history proper. Did a certain Egyptian king ever really live and die? If he did, he probably was appropriately entombed. A search is made for the tomb. Its finding is accepted as proof that the king did really exist. Similarly, were we confronted with an account of some catastrophic occurrence in the solar system some thousands of years ago, experimentalists could say, if such a catastrophe had occurred, surely its consequences would be traceable in the present. Since they are not, the account is not true, but false.

This method must reckon with what is technically called the possibility of a plurality of causes. That is, from present situations we cannot reason with complete certainty to past situations, since we are not certain that only one particular antecedent could have produced the present consequent. To put an extreme case, the tomb in the present, with its mummy, might be the consequent of some huge practical joke in the past; the mummy may be that of a slave dressed up like a king; and perhaps the king never was.

Since this difficulty infects all efforts to reason from the present to the past, it is of no special importance for our present study. It is enough that we recognise that the difficulty is there, that no reasoning from present consequent to past antecedent can claim complete certainty. But we do need to press the practical situation. Each event in the present may have had a series of unique antecedents in the past; nothing may have happened in the past but what has its unique consequent in the present. Let that be true. What then? The world is a very complicated and extensive affair. Here and there we may be able to trace out a few main strands in the pattern of events from present to past and from past to present. But who can follow for any length one individual thread? Are not they beyond untangling? It is reasonably certain that either Jonah was swallowed by the whale or that he was not. Whichever was the fact, let that have its consequences, continuing even to the present. But what experimentalist would hazard to specify the particular consequences of each possibility, then undertake to find those which are actual, and on that basis determine what really happened to Jonah? "A fig for Jonah," the experimentalist may say. Good, let Jonah have his fig. But the consequences for the experimental method in history are not so easily dismissed.

Our previous conclusions stand. Usually it is of no

practical importance to question what we may call the normal pattern of history. Court records, registers of births and marriages, writings of earlier historians—all these, when they tell us merely variations of what we see going on all around us, we accept as true. They supply us with a general basis within which we judge details by criteria obtained from present experience. But when what is specifically at issue is to determine whether some one thing did or did not occur, especially when, as described, the thing is out of the run of our normal experience, recourse to the experimental method or to experimentally established criteria, is futile and inept. Historians may have methods for weighing and testing evidence which they are pleased to call scientific. But it is certain, and was recognised as early as Plato, that history is not an experimental science.

One further feature of the experimental method requires our consideration, a feature of crucial importance for its proposed use in the field of religious beliefs. We may approach this feature by raising the question: Is the correlation discovered in any series of experiments dependent upon the person making the discovery? We may reply at once that at least the discovery is dependent upon the observer. No observer, no observation. Does the experimental method, as currently used, involve any special assumption as to the significance and consequences of this fact?

Since the general aim of the experimental method is the discovery of constant correlations between determinate factors, there is nothing in that to bar out the observer himself as one of the factors between which and others a correlation is found to hold. Hence he may condition the correlation just as much as any other factor. But I think we shall find that the experimentalist assumes that observation by the observer is merely a constant correlate of discovery, conditioning the fact of discovery, but never *what* is discovered.

Given one interpretation, this assumption can easily be shown to be at variance with certain widely accepted principles of science. Suppose we have an experiment going on in physics. The observer's body has mass, and hence a gravitational pull. It is a commonplace to say that his steps shake the earth. On occasion the bodily heat of the observer is sufficient to have an appreciable effect upon his experiment. He then endeavours to observe at a distance sufficient to eliminate this heat as a factor of practical importance. These exceptions, however, are not to the point.

In his *Theory of Monads*, Dr. Wildon Carr states the basic assumption upon which the experimental method rests,

in these terms: "It is the concept of an external world the laws of which are definitely and absolutely determined by the nature of its own constituents, and whose constituents are completely independent of any conscious process or order of knowing." What this comes to, when put crudely and with special reference to the observer, is this. It is assumed that whatever the factors may be which do determine the correlation observed in any experiment, those factors in their operation are *indifferent* to any attitude of mind, any hope or fear, any belief or disbelief, in the observer. At times the Pragmatists, the philosophical champions of the experimental method, seem to deny that this assumption is involved, or, if it is, that it is true. They call attention to situations in which the behaviour of the observer, his hopes and fears, do exercise an influence upon what he discovers. His private interests, it is true, have determined the field in which he is working. He may have a pet hypothesis he wishes to establish, and this will tend to make him quick to see some things, and make him blind to others. All contentions of this sort may be granted. But what do they prove? They prove only the well-known fact that we are apt to see what we look for, that we search for that which we wish to find. What they do not prove is that when we find what we look for, it is there because we wish to find it. The assumption is not even touched that, once the experiment is started, once the field to be observed is delimited, what happens, what is there to be observed, is independent of and indifferent to the hopes and fears of the observer.

In Kant's classic phrase, the experimental method puts questions to nature and in a sense forces nature to answer. But it is nature which answers, and it answers for itself, about itself, according to its own nature. And in that nature, it is assumed, there is no taking account of, no response to, the state of mind of the observer.

Yet we hear a great deal about the cultivation of the sceptical attitude in experimentalists, of the habit of suspense of judgment, of the elimination of the personal equation. Are these things cultivated for fear that the presence of a believing attitude would in any way alter the behaviour of the subject matter under observation? Not in the least. But this believing attitude might result in the observer saying he had observed a behaviour in and of the subject matter which in truth was not of that but of himself. No one believes that the parental love Chamberlain says a scientist may have for his pet hypothesis, will call forth from nature any special response. Consider King Canute and his courtiers. They

to express their adulation of the king, he to confound his courtiers, took their station on the beach. The tide came up. Because of their beliefs, these men got wet. But the tide came up all indifferent to the folly of the courtiers, to the wisdom of the king. The tide, the moon, the fisherman in the moon, whatever it is that swings the tides, cared not at all for what the king and his courtiers believed about the tide, and did not respond to that.

One more illustration. James called our attention very forcibly to situations in which evidence for a certain hypothesis might be obtainable only if we believed the hypothesis true. Free Will may serve as an illustration. All that can mean to an experimentalist is this. It might be true that only as a man believes he is free and acts on that belief, can he obtain evidence which can prove his freedom. It might be true further, that only those men are in fact free, who believe they are free. Then real freedom is conditioned by one's belief in it. But that last is asserted as a fact which is not conditioned by anyone's belief in *it*.

This indifference, this assumed indifference, in the subject matter observed to our beliefs about it, is one of the conditions which enable us to test our beliefs about that subject matter by the experimental method. I may believe the moon swings the tides. You may believe the contrary. We agree that if the moon does swing the tides, there should be a correlation observable between positions of the moon and tidal movements. Then we proceed to our test sure in this: If the correlation is there, we shall find it if we but look for it properly; under no circumstances will the moon recall its influence or exert a unique one, out of consideration for your beliefs or mine. It follows, that in using the experimental method, we do not have to consider our beliefs about the correlations we are trying to discover. We never need to ask, will the correlations vary with variation in our beliefs? Our states of mind, our beliefs, may be a hindrance or a help in observing what is to be observed, but they do not enter as constituting factors in what is there to be observed. I never have to consider what the moon may think about my beliefs about it, for it does not think about them at all.

We have so far devoted our attention to the experimental method itself, endeavouring to make clear those features which are of special significance for its application to religious problems. We are now ready to attempt an answer to our main question: In terms of an ideal experiment, what are the ways and what are the chances of success of using this

method in the field of religion? The more specific we can make our experiment, the greater clarity we can obtain in our answers. Christianity, the religion most familiar and interesting to us, provides the most convenient subject matter. And it is mainly to the Christian Church that the current admonitions are addressed, "use the experimental method or perish". The most pressing problems of Christianity fall roughly into two classes. The one set focuses on the truth or falsity of certain assertions of historical fact. The other set, although intimately related to the first, is yet mainly made up of problems of practice. We shall examine these two groups separately.

Christ was born of a Virgin. He died upon the cross. He rose from the dead. He ascended into Heaven. These statements and others equally familiar are found in every Christian creed, are taught as historically true in most churches, and belief in their truth is the commonest test of whether or not a person is a Christian. Finally, these assertions have always been regarded as false by some people and are to-day the sore points of much controversy. Can we use the experimental method, or experimentally established criteria, to test these claims? Some people evidently think so, for not long ago a popular weekly asserted that the Church must remove from its creed those assertions which the advance of biological science has rendered obsolete.

In part, at least, these assertions can be stated in the form which 'makes sense' for the experimentalist. Had you been at a place called Golgotha at a certain time when Pilate was Roman Governor, you would have seen one man, called Jesus, crucified between two others. There is nothing out of the run of ordinary experience in this assertion. Many men have been crucified, and, when crucified, they died. But is this particular statement true? *i.e.*, did the crucifixion of this man, Jesus, actually take place? Thus specified, the question is essentially one of existence. And we have found such questions to fall outside the scope of the experimental method. Certainly no experiment in the present can verify or upset the assertion that Jesus died upon the cross. Nor have we any rule or law which is applicable to that existential question. From the truth that, if you crucify a man, he dies, we can never infer that *any* man was in fact crucified, let alone that a particular man, Jesus, died in that fashion. If we do attempt to reach a decision on this question, it must be by the use of methods appropriate to any historical investigation—the search for and weighing of evidence. Here the experimental method may play a minor rôle, as has already

been suggested. But inevitably the specific question of existence will be met. And on that point the experimental method is inherently dumb.

This conclusion holds good for every assertion in the creeds involving assertion of existence. But for the most part these questions are not now of much practical importance. Occasionally one still hears the hypothesis maintained that the entire Christ story is a myth. Yet on the whole even experimentalists and non-Christians seem to accept the 'natural' elements in the story as true. The questions of bare existence are, as they must be, left to the historian or taken for granted.

The crucial points in present controversy are reached only when we pass to the 'super-natural' elements. Nothing, it seems to me, is gained by blurring this fact. The sore points in our present religious controversy are found precisely in such assertions as "born of a virgin," "rose from the dead". For some reason or other, "God—maker of heaven and earth," is commonly not directly questioned, although logically it is prior to and inclusive of all the other disputed articles.

Once more we can, if we choose, put these assertions in 'sensible' form. Had we been in that upper room when Jesus is said to have appeared to His disciples, with St. Thomas we might have said, 'If you are Jesus, your hands and feet will have the marks of the nails, your side show the wound of the spear'. The doubting saint behaved as a good experimentalist should, and the account is that he obtained the evidence he asked for. But our present requirement is to obtain, if possible, experimental evidence that *that account* is true or false.

We need hardly repeat that such a problem is not open to direct experimental determination. The only question of importance is whether or not we have experimentally established criteria for judging these accounts. What springs to mind at once is such remarks as the one already quoted, that the advance of biological science has rendered certain articles of the creed obsolete.

But what has biology or any experimental science, or any conclusion experimentally established, to do with the truth or falsity of such assertions as the virgin birth or the resurrection? Nothing. Note well that what is at issue is not *why men believe* these assertions. Nor is the issue when or why men invent such stories. What is at issue is just this: have we an experimental basis for judging these stories true or false?

Any such assertion must be taken in its entirety. It is asserted that a certain individual, Jesus by name, both man

and god, died, was buried, rose from the dead and appeared unto many. We have no such case under present observation. So far as our observations go, dead men for the most part stay in their graves. Even if removed, they stay dead. But what of that? We found that when experimentally established conclusions are used as criteria of accounts of events in the past, to warrant such use it is not enough that the question of bare existence be waived. In addition, a partial specification of the event must be given independently of the application of the criterion. If a *man* dies, he stays dead. Granted. Jesus died. But was he a man? If that is determined and nature is uniform, it follows that he stays dead, and that the account of the resurrection is false. But the crux of the whole matter is just that question, was he also God? If Jesus was both man and God, our criteria, valid for mere men, do not apply to Him. We lack experimentally established criteria for the behaviour of beings both men and gods. How, then, can an experimentalist judge the account of the resurrection?

Many will cry out at once that this begs the question. If this begs the question, then the alternative begs the question too. Assume Jesus was man and man only, and he did not rise. But this assumption begs the question of his divinity. Theoretically our situation is analogous to our illustration of the discrepant accounts of the litmus paper affair. We found that in that illustration we could not use the assumption that the solution was acid, to judge that the paper turned red; nor the assumption that the paper turned blue, to judge the solution basic. For both colour and solution were involved in the controversy. So here, not merely the resurrection, but also the manner of person to whom the resurrection is ascribed, are in doubt. Some may accept the resurrection because on other grounds they are convinced of the divinity; others may deny the resurrection because, again on other grounds, they reject the divinity. But taking simply the two assertions, neither can be used to verify the other, and—and this is what most modernists fail to see—the mere denial of one cannot be used to discredit the other. With no independent determination of one of these controverted points, both are beyond the scope of experimental judgment.

I grant the same can be said for any other similar situation or claim in other super-natural religions. Was Aphrodite born of the sea foam? I do not know. Who was Aphrodite?

Probably few experimentalists, if any, are ready to accept such a conclusion as the one just offered. They will be quick to point out where the analogy between the resurrection story

and the litmus paper story breaks down. The colour change of litmus paper in acid and basic solutions is a natural event of which many instances have been observed, and which can be repeated at will. Hence the litmus paper story is in general credible, whatever the difficulties in the details. But the resurrection story is inherently incredible. Such things do not happen in our experience. Resurrection from the dead—why, the thing is unnatural! These are the probable comments of experimentalists.

That a story is credible or incredible, has little direct relevancy to whether the story is true or false. What is credible to one person, may readily be incredible to another. And whichever it is, is determined primarily by the mental bias of the individual. But that an event did not happen, because for it to happen would be unnatural, that is, contrary to nature, is meant to be a serious, even a decisive objection. It claims that reality is such that that event could not happen. Not what we think, but the nature of the objective world stands in the way of such an event's being actual.

What then is a natural event? To this question there are really two answers. The first is decisive, the other not. And it is important that we do not confuse the one with the other. The first answer understands the question to ask, what is the condition which, if met, makes the event meeting that condition a natural event? Clearly in the end there is but one such condition. That is, that the event actually occurs. Let anything happen, no matter what, and *ipso facto* that event is a natural event. Once is enough. That it does not happen twice cannot rob the first occurrence of its existence, and *a fortiori* cannot disprove or nullify the first occurrence. It follows, then, that every event which happens is a natural event, and that no unnatural event ever occurs.

If this is all we can say, we can never infer non-existence from unnaturalness. For since the occurrence of an event is sufficient to make it natural, how can we be certain any event is unnatural unless we are certain it did not occur? And that is what we are trying to prove.

There would be a way out of this circle if we could obtain a definition of the unnatural event independent of mere occurrence or non-occurrence. Such a definition the second answer to our initial question, what is a natural event, tries to give. I am unable to give such a definition in formal terms, for a reason which will be presently apparent. But I think I can describe the way in which attempts are made to reach one. Within our knowledge of what does occur, we describe a coherent and general structure. Some of the main

aspects of this structure are general types of events—such types as falling bodies, the generation and dying of living organisms, etc. Then we obtain as a definition of a natural event, any event which belongs or would belong to one of these types. Such an event could be described and called natural, even if that particular event did not occur. Calling it natural would mean only that its described character harmonises with a type of event instances of which do occur. Thus for an experimentalist to disagree with this paper could be called a natural event, even if none did. For his disagreeing would belong to a type of event instances of which are very common.

Meaning that by the phrase "natural event", an unnatural event means an event whose type cannot be harmonised with the types known to be existent. But here we face a difficulty. The attitude of experimentalism is fundamentally descriptive and objective. It can never deny our first answer, namely, let any event occur, and it is by that fact a natural event. If an actual occurrence should be discrepant with our present understanding of the structure of reality, our knowledge would of necessity have to be remodelled. We could not deny the occurrence. This is the reason a satisfactory definition of a natural event, independent of simple occurrence, cannot be given. In the end, let anything whatever occur, let a bird fly, or the sun stand still, and each is a natural event. And to infer non-occurrence from alleged unnaturalness is always fallacious.

But let the disturbing event occur, if at all, in the past and never be repeated, then there is a plausible mask for the fallacy. The alleged original occurrence can be rejected because of its unnaturalness and then the unnaturalness driven home by the admitted non-reoccurrence. Thus it is really the absence of repetition which is the basis for the judgment. It is, no doubt, a very plausible basis. The types of events which we call normal and which we use to build up our ideas of the general character of the natural world, must be those of which we have experience. Early in this paper it was precisely the field of what is repeated which we found to be exclusively the field in which the experimental method is applicable. How natural, then, if I may use the word, for the experimentalist to infer from the absence of repetition to complete non-occurrence.

Logically the fallacy is obvious. That an event does not happen twice, clearly cannot be a cause preventing original occurrence, nor a sufficient reason for denying original occurrence. The bias in our attitude, however, is almost inevit-

able. More than that, there are sound reasons for the experimentalist to assume *within his field* that that which is discrepant with experience as revealed by his method, does not occur. Yet it is an assumption and every attempt to prove it, begs the question. This should be a sufficient warning against dogmatically condemning those who, while accepting the experimental method in its proper place, find other reasons for believing that which to the experimentalist is contrary to nature. There may be many things in heaven and earth undreamt of by the experimental method.

This entire situation was delightfully described long ago by Thomas Hobbes. Discussing miracles he wrote: "The first rainbow that was seen in the world was a miracle because the first; and consequently strange. . . . But at this day because they are frequent, they are not miracles neither to them that know their natural causes, nor to them that know them not" (*Leviathan*, iii, 37). I have not the least doubt that if we could prevail upon God to repeat his drama of the incarnation and the resurrection every fifty years or so, we should hear less of the inherent incredibility and unnaturalness of the birth and resurrection story of Jesus. The curious thing is that even then we should not be one whit better off than we are now on the question whether the Jesus of the Gospels really was born of a virgin and rose from the dead. Crossing the Rubicon in the present neither proves nor disproves a specific crossing in the past. Nor would any number of virgin births in the present, under the most critical scientific auspices, verify or discredit the virgin birth of Mary's son.

So far as the experimental method and experimental sciences are concerned, this whole field is closed. Recourse may be made to history. While the problem there is beyond the scope of this paper, a few *obiter dicta* may be permitted. When events which are through and through unique are at issue, the question of inherent probability dogs the steps of our efforts to weigh and judge whatever testimony we may have about those events. Once more the absence of repetition is apt to lead to the conclusion of original non-occurrence. This error committed, what is likely to follow is the addition of persuasive accounts explaining how men come to testify to and believe events which we in our wisdom say did not occur. The explanations may be convincing, but in the end they do not touch the existence or non-existence of the event in question. Convincing and in many cases true explanations are available of how fishermen come to assert and believe that the fish which got away was larger than any caught, when in fact such was not the case. None the less in some cases it is

fact that the fish which got away was the larger fish. So, here, psychological and other explanations of how and why in the past men have told and believed stories of resurrections which never happened, cannot prove that all such stories or any one specific story is false.

Neither by experimental science nor by history can these questions be definitely answered. Was Jesus the Christ? remains a question to which from these sources no answer can come. They cannot prove that He was. They cannot prove that He was not. Much less is the inability to prove one, warrant for inferring the truth of the other.

So far our conclusions are an old story to those familiar with the history of theology. But within Christian doctrine there are other assertions not concerned with historical events, but with alleged correlations which look as though they were formulated with the experimental method in mind. If you step off the top of a wall into the air, you will—granted certain other conditions—fall to the ground with a certain velocity. If you believe the creed, you will find yourself after death and the judgment in heaven. Do you doubt either one? Try it and see. What more can the experimentalist ask? What more could be given? True, you have to believe the creed and die to try out the one. But you have to step off the wall to try the other. Many have tried both. Unfortunately those who believed and died, seem to be unable to give us an account of the result of the experiment. But so far as the method is concerned, is not that irrelevant? If it is relevant, if one of the conditions of using the experimental method is that he who experiments shall be able to turn in a report, then all assertions by a religion as to consequences realised only after death, are not amenable to the experimental method.

A candid survey of the content of Christianity makes one realise how drastic are the limitations thus far made to the use of the experimental method in that field. The greater part of the historical content of Christianity must remain a matter of faith. Expectations of what is to follow this life, must remain a matter of hope springing from faith. Does anything remain for which we can try to obtain experimental verification? If anything does remain it must have to do with matters strictly within our lives here and now. And there do seem to be some assertions in Christian doctrine which meet this requirement. "My soul is restless till it rests in Thee," said Saint Augustine. And the promise of peace is generally offered to all believers. To formulate this promise as an hypothesis for an experimental test presents consider-

able difficulties. Satisfactory definitions of some of the terms involved, such as peace and belief, are illustrations. But let it be granted that these have been surmounted. The factors, then, for the experiment are the believer, God, and the peace which God is to give the believer as the reward for his faith. Can we put this hypothesis to the test?

Let us try. If an interested person wishes to test this hypothesis for himself, he is caught in a dilemma. It has already been pointed out that a major assumption of the experimental method is that the factors involved in any experiment are indifferent to the state of mind of the man conducting the experiment. Hence he can be sceptical of how they will act, and yet they will act just as they would if he were credulous. His beliefs about them are not factors determining their behaviour. But here it is precisely that assumption which is impossible. His own belief is itself one of the factors in the experiment. And God, the most important factor of all, is explicitly stated to take cognisance of the purity of his faith, and to be beyond deception. "Unto Him, all hearts are open, all desires known, and from Him no secret is hid." This does not completely rule out the experimental method for testing this hypothesis, that God gives peace to those who believe in Him. But it does mean that if the experimental method is used, it must be by way of observing a person who is not consciously using it. Provided he can find a believer, watch him, get him to reveal his state of mind, then an experimentalist can obtain some data as to how the experiment is working out for the believer. But the experimentalist cannot himself make the experiment. If he merely assumed a faith for the occasion, it would be before God not faith but a pretence. If his faith were genuine, then he would no longer in that matter be an experimentalist. That is his dilemma.

Both experimentalist critics and pious churchmen are apt to forget this restriction. All too familiar are their stories of those who would bargain with God. At their worst, these stories prove only that some men think God is venal. Others show mainly how blind men can be. There is the account of Tolstoy at the time when he was breaking with the church. His faith already dead, he yet determined to make one last test. He fasted, so the account runs, attended the eucharist, and so on, all in order to see if he would get what the church promised to the faithful. But the promises are to those who truly believe. And Tolstoy believed no longer.

Even when we have cases of apparently genuine and pure faith, we make small progress toward any clear demonstration.

That on the whole the devout find peace, seems to be granted. But sceptics maintain that not God but merely belief in God is the true cause of this peace. On the other hand, when peace is not obtained, the staunchly orthodox find in this failure evidence of a flaw in the faith. Finally, there are those who, not believing, have yet untroubled minds. How is one to determine by experiment whether those who say in their hearts, there is no God, are wise men or fools?

For myself, I find the root of the fault, the fruitful source of all these perplexities, in the effort to use a method which is not appropriate to the matter in hand, the effort to force a demonstration where no demonstration is possible. Even people who will agree that religious beliefs *are* matters of faith, often seem to think that if the faith is held for one week, demonstration should follow in the next. The way of religion is not so easy as that. No doubt the faithful of every religion have often found sustenance and confirmation in the clarification of life's values, the sense of peace, which have followed their faith. The lives of the saints are indeed witnesses. But it is not to belittle their testimony to recognise that in all this there is no experimental demonstration. And to try to torture a demonstration out of it, whether for or against religion, is to abuse their testimony.

The Christian Religion itself has not been silent on this matter and it is worth while to consider what it has said. God, it seems, does not look kindly on efforts to use the experimental method in religious matters. "An evil and adulterous generation seeketh after a sign, and there shall be no sign given it, but the sign of the prophet Jonas". Even more direct is the reply of Jesus to the Devil. The Devil, as you recall, asked Jesus to cast Himself down from the pinnacle of the temple, reminding Him, if He were the Son of God, that it was written, "in their hands they (the angels) shall bear thee up, lest at any time thou dash thy foot against a stone". And the reply, "It is written again, thou shalt not tempt the Lord thy God".

Yet the Devil was making exactly the request an experimentalist would make. Hydrogen and oxygen, when combined in proper proportions, give water. If you doubt it, or if you wish to prove it, try it and see. And we assume that the hydrogen and water will combine according to their own natures without any attention or response to our interest in the experiment. But with God it is different. He is not to be tempted.

Dr. Wildon Carr in describing the assumptions of the experimental method writes: "The experimental method is

serviceable in physical science just because that science excludes from the concept of physical reality the possibility of caprice". I wish to make sure that no one infers that I am asserting that the Christian idea of God is that of a capricious god. It is not caprice that God does not respond to temptation experiments. It is the absence of caprice. The Christian hypothesis offers as a determinate aspect of God's nature his response to unquestioning and pure faith, and his silence to temptation experiments.

This, indeed, gives the clue to the proper interpretation of the hoary experiment of the dramatic atheist. 'If there be a God, I blaspheme him and dare him to strike me dead'. We all know stories of these gestures of defiance. Not long ago newspapers carried accounts of a popular novelist repeating from a pulpit that dread experiment. And here and there a solemn editorial appeared pointing out the irrationality of the experiment and its futility. But the experiment is not entirely futile. Properly restated the experiment runs something like this. If there be a god *who will retaliate upon me for my blasphemy*, I blaspheme and dare him to strike me dead. Mr. Sinclair Lewis blasphemes, waits, and is not struck down. Clearly this proves at the least that there is no god Mr. Sinclair Lewis can tempt. I, for one, am content to accept that as experimentally proved.

If any readers of this paper are inclined to find its conclusions invalidated by a too credulous attitude toward the super-natural in Christianity, I think they have misread it. In examining Christian doctrine with an eye to the possibility of subjecting parts of it to an experimental test, I have certainly taken its super-natural elements seriously. This does not express personal belief in them; that is irrelevant here: but it does express the conviction that they are an essential part of that religion, and that as such they deserve a fair examination. It is simply absurd to think we can eliminate all matter bound up with a god who transcends our normal experience yet acts within it, all matter involving reference to a life to come, and still have left anything historically entitled to the name, the Christian Religion.

Our examination has disclosed that the major doctrines of this religion, particularly those referring to historical events involving unique divine activity and those referring to a life beyond this, cannot be experimentally tested. Further, no direct criteria for judging them can be found in present-day experience. The issue as to whether these doctrines are true or false is a grave one. But the experimental method is simply not applicable to such religious problems. This is a

negative result. In it, however, I find no disparagement either of Christianity or of the experimental method. And I am convinced that this negative result has positive value in helping us to clear thinking on these matters.

Many people, no doubt, are ready to cry out against me: Is this your idea of Christianity? Is this your idea of the pressing religious problems of our time? Miracles in the past, peace of mind in the present, heaven hereafter! What of the problems of the social order? Ought not Christianity to solve the conflict between labour and capital?

To these questions I wish to offer a very brief reply. Christians ought indeed to try to solve these social problems. But they are not problems for Christianity to solve. We should go to the New Testament for the gospel, the Glad Tidings, not for formulæ to settle the issue between the eight and the ten hour day, or between private property and public ownership. Such formulæ are not there to be found. Neither did Christ come into the world to settle by an *ipse dixit* for what cause a man may put away his wife. These are all special problems arising in man's life in a special social situation. Christianity does offer a general doctrine of man's freedom and man's responsibility. Part of the meaning of that doctrine, as I understand it, is that our affairs in this world are left pretty much in our own hands. The responsibility of Christians, then, and it is a heavy one, is that they are to work through these special problems as best they can, remembering always that if they love God, they will love one another. Will the experimental method help them in these problems? If it will, let them use it. "Wherefore by their fruits ye shall know them," is the challenge Christians must meet, and it is thoroughly experimental in tone. That is why, no doubt, experimentalists are so fond of quoting it. Not all of them, however, understand it. It is not a test to determine whether there is a god; it is a test for those who believe in God.

Faced with such responsibility, the assurance of God's love for man, the blessing of His peace, the hope of Heaven, are not lightly to be dismissed. Yet they cannot be demonstrated. And they involve matters outside the run of our normal experience. If then a man ask, how can such things be true, what is to be his answer? I know of none better than the old one, given by those whose lives bear out their words: *Credo ut intelligam.*

IV.—DISCUSSIONS.

CONSONANCE OF WELFARE AND PLEASURE.

In the January Number of MIND (149, p. 77) Prof. McDougall raises a general issue on a special count. The special count is the consonance of welfare and pleasure.

Under the normal circumstances of the life of animals in an environment which we may assume to be relatively constant it seems reasonable to infer, on the available evidence, that behaviour which conduces to pleasure conduces also to welfare. Under abnormal circumstances this may not be so. But let us first deal with those instances in which we have grounds for believing that it is so. The question then arises : How does it come to be so?

The reply may be : Through natural selection. The animal, it may be said, is in two-fold relations to its environment. It is in such physical relations as lead to behaviour conducive to bodily welfare. It is also in such mental relations as conduce to pleasurable experience in so behaving and in what follows thereon. In the orderly course of natural events welfare is the outcome which is attributable to the physical influence of the environment on the body; pleasure is the outcome of, or is closely connected with, mental reference to the environment on the part of the animal which is not only body but, in some sense, body-mind. In what exact sense the animal is body-mind is part of the issue to be discussed. But without prejudging this issue one may safely say that in physical relations it is body, while it is also mind in mental relations. On the hypothesis of natural selection those animals "survive" in which there is "consonance" in the joint outcome reached under these two sets of relations, physical and mental.

This, then, is one answer to the question : How does it come to be so? But a further question may be raised. Under what form of *efficient causality* may that which we infer from observation be explained? In other words : To the operation of what causal agent or agents may the course of events be ascribed?

It is here that, many years ago, Mr. McDougall sought to place the evolutionist on the horns of "the following dilemma : either pleasure and pain are efficient causes of appetition and aversion, and have therefore played in biological evolution a part of incalculably great importance, or we must postulate divine interference at some early stage of the development of the animal kingdom".

This was in 1905; and I might have left the dilemma with a Query in the margin of the page of my copy of the *Primer*. But in the *Outline* (1923) Mr. McDougall referred to the argument as

one that had not "received the attention it deserves". Not unnaturally, therefore, I briefly considered it in my Gifford Lectures. Hence this discussion.

Let us seek at the outset some basis of common agreement. Does *de facto* consonance afford such a basis? If so, the question at issue is not: Does natural selection suffice for the interpretation of this consonance? It may or it may not suffice. Here there is no dilemma. It is a matter of evidence. Let us, however, assume that natural selection is at least a contributory factor. Then we may say: "Consonance is general because it effectively contributes to survival". "So far," says Mr. McDougall, "we are agreed". But under this agreement, I am unable to see in what sense I am "boldly grasping one horn of the dilemma and asserting that I remain unscathed". For this is neither horn of the dilemma. As explicitly set forth the horns are, either (1) divine interference, or (2) the causal efficiency of pleasure and pain.

First, then, with regard to divine interference. My belief is that the whole course of evolution is due to divine agency. But in terms of this belief the expression "divine interference" is, for me, meaningless. If it purports to mean divine interference with the act of the divine agent, this, I confess, passes my comprehension. I am unable to conceive how it works out.

This, however, merely raises a question as to the meaning I am asked to attach to the word "interference". That, it may be said, is a minor matter. What is salient is the stress on divine agency as a form of efficient causality. Here my position is this. So long as we are dealing with natural interpretation, which I take to be the business of science, divine agency is not within our universe of discourse. In science, as I characterise science, we "have no need for this hypothesis".

Mr. McDougall may then say: If in science you have no need for this hypothesis, you are on the other horn of the dilemma. You must accept the causal efficiency of pleasure and pain. There is no other course open to you.

If I ask: Why must I accept one or other of these two alternatives? then, as I gather, the reply is: Because if you do not, you abandon the principle of causal efficiency in your scientific interpretation of the course of events. If this be the reply, then I say quite frankly: Yes, that is so. My contention is that in science we "have no need for this hypothesis".

Trying to dig down to the logical ground of a logical dilemma, I find that the underlying proposition is: We found on efficient causality. But since in science, as I read it, efficient causality has no *locus standi*, I cannot accept the underlying proposition. If, then, of two hypotheses presented by Mr. McDougall to me as an evolutionist I accept neither (since I do not accept the underlying proposition on which they are founded) is there for me any logical dilemma on one or other horn of which I am necessarily impaled? Clearly there is not.

But there is a crucial issue—that between interaction and, let me

say, non-interaction. It is raised under "consonance of welfare and pleasure"; it is raised in dozens of other ways; it is raised whenever the connexion of body and mind is in the focus of consideration. It is perhaps one of the liveliest of live philosophical issues. In dismissing—"cavalierly" or otherwise—a dilemma which is supposed to affect my position, I do not seek to avoid this philosophical issue. Indeed I regard the dilemma business as preliminary light-skirmishing. So let us turn to the larger problem in the solution of which I have the misfortune to disagree with Mr. McDougall.

This problem brings us down again to the concept of causal efficiency; to the concept of agency in that sense. Does not Mr. W. E. Johnson's advocacy of interaction under "impartial dualism"—in my judgment one of the best we have—hinge on his firm belief in psychical no less than in physical agency? Is it not, by implication, his opinion (*Logic*, iii, p. xxviii) that most physicists acknowledge true "causality" and not merely that which he speaks of as "invariability"? He may be right. But some physicists of no mean calibre say that the concept of causal agency has no *locus standi* in physical science. And some psychologists of repute say that the concept of causal agency is of no value in mental science as such.

It may be said, however, that the issue, interaction *versus* non-interaction, though no doubt it turns partly on the concept of agency or efficient causality, turns chiefly on the reading of the presumptive evidence for and against such a proposition as Mr. Johnson thus enunciates: "A volition is immanently caused by such purely psychical processes as feeling, desire, knowledge and thought to which there are no neural or physiological correspondents". Now here Mr. McDougall reads the evidence one way, and Sir Arthur Keith, as I understand, reads the evidence the other way. In each case it is a matter of confident belief, and not a matter of what one may call, rather loosely, "established scientific truth". Furthermore, were it conclusively "proved" that there always are "neural or physiological correspondents," the interactionist might still say: What of it? There is still the causal efficiency of that "entelechy" or *elan* which acts *into* the so-called realm of matter but belongs to a disparate order of being.

It does seem, then, that causal efficiency lies pretty nigh the tap-root of the whole matter. But how am I now to proceed under limitation of the space at my disposal? Mr. McDougall gives me a clue. "It must be possible," he says, "to reach a generally acceptable conclusion in favour of" his view or of mine. What then is mine in this matter of causal efficiency? Let me state it briefly, and therefore rather crudely, with, no doubt, some reading of my present attitude into the past history of him who was I.

More than half a century ago, as a beginner in science with prior interest in philosophy, he had to ask himself: Cause, what is it? He was somewhat embangled in the difficulties that arose through the use of the word "cause" with more than one meaning. Still he fancied that he might take *efficient* cause to mean something like this. There are in our complex world quite a number of pushes and pulls

of many sorts and kinds. Events are on the go. There is something that makes things go or alters, in this way or in that, the manner of their going—something that veritably pushes or pulls. The efficient cause is that which pushes or pulls. But it seemed to him that this efficient cause which pushes or pulls, in *the sense intended*, always conducted its operations behind the scientific scenes. And he wondered whether what was said to be busily at work behind these scenes, was of much use to him in the business procedure of science. Observable pushes and pulls; Yes. But this something behind the scenes! Is it any good to him *in science*? He harboured grave doubts.

He seemed to get along all right without it when he discussed the pull of the engine on coaches duly coupled up, or the push of the rails that deflected the course of the train round a curve, and so on. Mechanical states and conditions seemed here to suffice. But what about crystallisation? So far as he could gather from what they did, and what they said, about it, men of science dealt here with a complex set of subtle pushes and pulls, physical states and conditions. They did not ask: What efficient cause is operative? If—apart from the concept of divine agency—some of them with philosophical leanings did so, the reply they gave, and bade others accept, came to this. The efficient cause of crystallisation is the agency of crystalline force. This opened up a wide prospect of agencies or efficient causes severally underlying all the so-called forces of nature.

Among these forces of nature is gravitation, widely regarded as presenting a test example. Here, in terms of efficient cause, the operative agency to which the observed pull is due is, we used to be told, the agency of the force of gravity. Is not that, it may be said, what Newton taught? This is questionable. Newton did speak of "active principles". But speaking as a man of science, he said: "The cause of gravity is what I do not pretend to know". There has been much further discussion of gravitation since Newton wrote these words to Bentley. What said Huxley with regard to operative agency or efficient causality in this test example? And, nowadays, what says modern science under a searching re-examination of the data? Does modern science discuss gravitation in terms of efficient causality, or in terms of space-time relatedness? In terms, as I understand, of the latter not the former.

Thus gradually I—who in preceding paragraphs was he—have been led to the conclusion that, in science, the concept of efficient causality is out of place. To put it bluntly this concept is always useless and sometimes mischievous. Anyhow my belief is that, in science, there is no need to ask: What pushes or pulls?

How, then, do things work out? Here, let us say, is a cluster of natural events in which some change in the manner of their going occurs. The man of science seeks to express in suitable generalisations, what, under statistical treatment, he and others observe in this and in all like cases. To that end he describes what happens in some selected instance. He then pursues his inquiries in such

wise as to ascertain the internal "state" of the cluster of events, and the "conditions" external to the cluster. Here description, inquiry, and generalisation based thereon, are in terms of relations. I submit, therefore, that, in view of the procedure of the man of science, one may say : Any change in the manner of going of the cluster of events under investigation is interpreted by him in terms of relations within it, and relations between it and other events outside it, where within it and outside it constitute a co-related whole. If, then, we speak of that observed change with which we start as the effect I submit that, correlative with relational effect is relational cause ; and that, in science, this is all that is comprised under causation. But, if this be so, efficient causality does not come into the scientific picture.

It may, however, be said : Even if this be so in physical science, it is not so in mental science. Does not this cleave scientific method in twain with the hatchet of bare assertion ? I think that it does, if the assertion is that, supposing efficient causality can be excluded from physical science, it must be included in mental science.

The head and front of my offending, in Mr. McDougall's opinion, is that I question the validity of this assertion. I venture to say that mental relations no less than physical relations are amenable to treatment on the *same* principles of scientific method. How so ?

The position we have reached is that, in science, one proceeds on some such canon as I may re-formulate thus, with respect now to a living animal which here comes to the focus of attention : Given such and such observable behaviour, it is interpretable in terms of relations within it, and of relations between it and its environment. But these relations are of two kinds. There are physical relations within it, and between it and its environment. These I comprise under "body-story". There are also mental relations within it, and between it and its environment. These I comprise under "mind-story". In an interpretation restricted to relational causation mental relations "count" every whit as much as physical relations. Why should we say that they do not count ?

My belief is that they do count—count in the *conscious guidance of behaviour*. Mr. McDougall asks : What can this mean ? For him, as staunch interactionist, it is meaningless. For what is conscious guidance ? It is the guidance of observable behaviour under the efficient causality of mind—let us say, to keep to his chosen instance, the efficient causality of pleasure and pain. If you abandon (he says in effect) the causal efficiency of mind, you have no longer any right to use the expression "conscious guidance".

I distinguished, above, efficient causality from that which I spoke of as relational causation. I said that in science efficient causality has for some of us no *locus standi*. That, as I understand, is what Mr. Whitehead means when he says that we must give up the old notion of the pushiness of matter. But if we hold, as I do, that there is one, and one only, method of science, then, in mental science as such, we must give up also the pushiness of mind. And the odd thing is that we are not, in the one case or the other, in

scientific regard one penny the worse. But we are in difficulties over the word "cause". Whether we speak of scientific cause, or relational cause, or effective (as contrasted with efficient) cause, we still speak, and shall continue to speak, of that which is correlative to the effect as the cause. And this notwithstanding that there may be some who say: You have no right to use the word "cause" at all unless you mean efficient cause.

Now for me, as for Mr. McDougall, conscious guidance in some sense is causal. That is where we are at one in rejecting left-wing behaviourism. But for him it is an instance of efficient causality; for me it is an example of effective causation, or, as I call it, relational causation. What, then, do I mean by conscious guidance in the half dozen passages which Mr. McDougall quotes, and in a good many others? I mean that when, and only when, such and such modes of mental relatedness are in being—to be duly specified as effective cause—is this or that form of behaviour in evidence as effect.

On these terms—not wholly incomprehensible as I think—my belief is that mental relations do count, and, whenever they obtain, count no less than physical relations. With my canon of relational interpretation coming more and more clearly into view, I have for many years sought to render some account of the behaviour of animals and of men. I have asked myself the question: Can I interpret *all* the behaviour I observe if I deny to mental relations any place in the causal scheme? I reply emphatically that I cannot do so. I have asked myself two other questions. (1) Can I interpret *any* of the behaviour I observe in terms of physical relations—which for me include physiological and biochemical relations—and in terms of these relations only? (2) Must I interpret *any* of the behaviour I observe in terms of mental relations only—when I come for example to such "psychical processes as feeling, desire, knowledge and thought"? In net result, to the former question I reply: Yes; some behaviour I can so interpret without invoking what I speak of as conscious guidance. To the second question I reply: In no behaviour does the evidence, as I read it, justify the assertion that there are mental factors which have "no neural or physiological correspondents". Hence under (1) I try to distinguish those forms of behaviour which do imply conscious guidance from those which do not; and under (2) I proceed on the hypothesis that, as I put it, "concomitant" with any episode that is told in "mind-story" there is an answering episode which may be told in "body-story". That in many cases it cannot yet be fully told in either story I freely admit.

In the context of this discussion I regard consonance of welfare and pleasure (to which we may now return) as a special case which falls under the general rubric of concomitance. On this hypothesis the organism exemplifies two-fold relatedness, physical and mental. There are relations of the mental kind within it which constitute what I speak of as its system of enjoyment. They are concomitant with the physiological and biochemical relations within it which

constitute its life as a physical organism. There are mental relations between it and its environment which I speak of as relations of reference to that environment. They are co-related with physical relations between the external world and the organised system of the body of the animal that dwells therein. Throughout the whole gamut of animate life, from ameba to man, there is consonance of physical and mental relations within the organism; there is co-relation of physical and mental relations between the organism and its environment under reference.

Such is the schematic frame within which guidance of behaviour in my sense comes into evidence at some stage of evolutionary advance. When we get down to the business of scientific interpretation we always, and in any given instance, get down, as I think, to the questions: What *are* the relations, physical and mental, which in this case here and now obtain? Under what change of relatedness within the organism, and between the organism and its environment, is there some change in the current course of events—say towards bodily welfare and towards pleasurable enjoyment, admittedly consonant under normal circumstances?

We started with consonance under normal circumstances—that is, for me, in a normal field of relatedness. We agreed that natural selection may be regarded as in large measure contributory to its establishment. Let us now turn to a brief consideration of what may happen under circumstances that are abnormal.

Take the case in which cattle are introduced into a new habitat, where certain herbs are, let us say, pleasant to the taste but are noxious and conduce to sickness, perhaps to death. Presumably the sickness is fraught with discomfort. What may happen under natural selection?

(1) The cattle may all sicken and die. There is an end to the matter. (2) Some of them may sicken but not die. They survive but may be weakly. In the course of a few generations, however, through some purely physiological change, the survivors may become immune to the noxious influence of the herb. They no longer sicken; nor is there any discomfort. Consonance of welfare and pleasure is re-established. (3) Some of them may "learn" to avoid the noxious herbs. It is *this* case that is pertinent to our discussion. In *this* case there is in some sense conscious guidance of behaviour. There is, let us say, some "association" between a specific nuance of taste and subsequent discomfort. I do not enter into details, largely conjectural, because in *this* case, however it be interpreted, we have an instance, analogous to thousands of other instances, of conscious guidance, and therefore come back to the matter at issue. That issue is: Causal efficiency or effective causation under relational treatment? On this head need I say more than I have said?

I pass over the question: Who or what determined that pleasure should be the psychical accompaniment of these physiological processes, pain of those—whatever these or those may be? I take it that the word "determined" here implies efficient causality. If so

we are thrown back again on to the main issue. In scientific regard I am content to say: Such is the constitution of nature.

There is, however, one more matter on which I must add a few words. Mr. McDougall is astonished that I should be so inconsistent as to say that "human guidance is always toward something more or less clearly envisaged as not yet in being, but still to be brought into being through striving and endeavour". His point I think is that here "striving and endeavour" must imply efficient causality. If so, is not this inconsistent with the claim that *in science causal efficiency has no locus standi*? But have I anywhere said, in the foregoing discussion or elsewhere, that, in dealing with the affairs of human life, science is everything and that beyond the domain of science the philosopher may not trespass? Have I anywhere denied causal efficiency to man as an agent?

No doubt I may too often have failed to give adequate expression to the faith that is in me. I have been led to believe that the observable outcome of all human endeavour, as *fait accompli*, can be, and should be, interpreted in terms of scientific generalisations. But I have been led also to believe that my endeavour or yours cannot adequately be explained save under acknowledgement that we are agents who are causally efficient.

Is this distinction so subtle as to be unworthy of courteous consideration. What can it mean? It means that, as M. Bergson says, the philosopher's aim is "to superpose on scientific truth a knowledge of another kind (*d'un autre genre*)". In excluding causal agency—efficient causality—from science physical or mental, I do not exclude that which this concept embodies from its due place in a philosophical discussion of endeavour on the part of human folk.

And the bearing of this on interaction? So long as we keep within the limits here assigned to scientific interpretation, we do not deal with forces, driving forces or directive forces, that push or pull with causal efficiency. Hence, in science, the question of interaction between what Mr. Johnson distinguishes as "physical agents" and "psychical agents" does not arise. That does not, however, preclude due consideration of efficient causality when, in philosophy, we go beyond science to discuss problems *d'un autre genre*.

Of another kind. In what sense? Perhaps in one sense for M. Bergson; in another sense for me. Then for me? I must restate my position with the utmost brevity. Nowhere and at no time has anything occurred, in human or other affairs, that is not, as *fait accompli*, susceptible of scientific interpretation. But nowhere and at no time has anything occurred, or will anything occur, save through the efficient operation of some agent human or other. On this philosophical hypothesis an account of everything that happens can be rendered (i) in this kind, in terms of relational causation, and (ii) in that kind, in terms of efficient causality. But in the interests alike of scientific method and of philosophical discussion they should be distinguished.

THE PLEASURE-QUALITY AND THE PAIN-QUALITY ANALYSABLE, NOT ULTIMATE.

If these remarks bore a sub-title it would be, Why Pleasure and Welfare are Conjoined—meaning, so far as they are so. And the answer here suggested is: The peculiar problem vanishes when we analyse pleasure and pain.

Prof. McDougall in the January number argues that the conjunction is an evidence of the action of consciousness on the body. If animals seek what gives them pleasure because it does so that means an effect of feeling on bodily movement. Only by supposing that there is such an effect can we give an evolutionary explanation of that strangely happy adjustment in our constitution by which in so many cases what sustains life is felt as pleasant and what assails it is felt as unpleasant. For the animals in whom pleasure accompanies the beneficial will seek the beneficial and will survive, and the others be exterminated. If, however, pleasure as such does not draw the animal to seek it, if it has in itself no influence upon action, this explanation is excluded and no evolutionary explanation appears possible. So reasons Mr. McDougall, and the argument, on its own foundations, seems irrefutable.

But suppose that all sensations that are instinctively sought and cherished are by that very fact pleasant; that "pleasant" means attractive and welcome and has no other meaning; that the only characteristic really common to the class of pleasures is that they automatically and as a matter of course evoke the reactions of seeking and retaining; in other words, that we *like* them. I say, suppose that a sensation called a pleasure has the pleasure-quality not in itself, that is, in its own content alone considered, but in the fact that it calls forth a sensible response of the organism. I mean, of course (as we commonly do in such cases), that the cerebral accompaniment of the sensation calls forth the reaction, which thus appears to consciousness as *the natural response* to the sensation. And suppose that all sensations against which we instinctively revolt, of which we instinctively try to rid ourselves, in other words, which by our organisation are repugnant, are by that very fact painful or unpleasant. Suppose that the painful means simply the intolerable, that which the reactive organism does not tolerate, and that the word has no other meaning.

This cannot be stated by saying that pleasure is a reaction. Pleasure is, in the propriety of language, a name given to the primary sensation itself and not to the attendant feelings of reaction.

Instead of pleasures we may say pleasant experiences ; pleasantness is their common character and, according to this supposition, consists solely in their arousing the reaction in question. We do not like them because they are pleasant, but they are pleasant in that we like them. Their pleasantness is their likeableness. Again, we cannot say that pain is a reaction ; but the painfulness of a sensation is the fact that it forthwith occasions the reaction. (The present question does not oblige us to go into the difference between pains in the narrower sense and other disagreeables.) We do not dislike pains because they are such, but they are pains in that we dislike them. Their painfulness is their odiousness.

In this analysis stress must be laid upon the word "instinctive". Obviously we can seek pains and "scorn delights," we can lacerate ourselves, etc. ; but we are "doing what we don't want to do," that is, the instinctive reaction is against these things and we are overcoming it.

If the analysis is correct, clearly the difficulty in the evolutionary explanation disappears. The pleasant and the beneficial are conjoined because, owing to the conditions of survival to which Mr. McDougall's argument refers, the beneficial becomes the attractive, and the attractive *is* the pleasant. So also the painful and the baneful are conjoined because the baneful becomes the intolerable, and the intolerable *is* the painful. (This is said, of course, subject to the present self-questionings of biology on the whole topic of origins.)

I am much afraid that the masters of introspection—as well as nearly everybody else—will tell me at once that this will not do ; that quite evidently pain in itself is pain, and pleasure is pleasure ; that we feel the quality of the one or the other in the sensation and not in any adjunct or circumstance of it ; that it is just because we feel it there that we rebel against it or desire it.

But will not those who speak thus be missing the subtlety of the problem ? Of course our attention goes to the sensation itself and not to the reaction it awakens. Of course the more we attend to the sensation the more it awakens the reaction. Of course it is the quality of the extreme pain, for instance, that is insupportable ; that is, when that quality stares us in the face we cannot but try violently to escape, or writhe in the baffled attempt to do so. But it is careful introspection itself that finds no common intrinsic quality in a burn, a headache, the smell of assafoetida, the sense of nausea, the state of mind produced by a beloved person's death. And it is introspection that testifies that when we regard a sensation without annoyance or shrinking or impatience or any impulse of withdrawal, when we gaze at it in perfect unconcern, when without effort we can sit down and be at home with it, it is not what we call disagreeable or a pain ; it would never on those terms have gained admission to the class.

That our attention is on the primary sensation and not upon the attendant reaction has curious consequences. Having once classed

a sensation as a pleasure or the reverse we still class it as such though it lose for the moment the accompaniment that made us do so. Thus we may press a sore spot and "like the ache"; we call it an ache because in quality it belongs to an ascending series, the other and more intense members of which are aches indeed; in other words, we usually do not like that sort of sensation. So we may "weary of pleasures". To be sure, they are not strictly pleasures when we weary of them, but having given them the name it is easier to let them keep it than to change it with our mood.

It must also be noticed that the reaction in the milder cases, especially in cases of pleasure, may be for moments together merely potential; our organism is set to react in a quite definite way when it comes to do so, but there are moments of inaction; the sensation is the sort of thing we hate, or the sort of thing we like, and we have not changed our disposition towards it, but for the time we are passive.

The best test for the analysis is perhaps the following. Let us take an acute pain: suppose the dentist's instrument slips and makes a sudden lunge into the most sensitive portion of a tooth. The result is an example of an intolerable sensation. We are so organised that it is a shock and an outrage; the whole body seems to start up in protest. Now let us suppose the same sensation in the tooth—not the same physical occurrence merely with a different local sensation, but the same sensation—to excite not a reaction of revolt but one of smiling, of bodily contentment, and of eagerness for more. It is difficult to imagine it but not impossible, for clearly the supposition does not contradict itself, it only separates two distinct things which for us have always automatically come together, so that they seem naturally inseparable. If then the same quality of sensation in the tooth were at once and spontaneously welcomed and exulted over, if we wished to have the thrill again, and if this were always so, what could it possibly be but a pleasure? That is, the same sensation (not cerebral event but sensation) may be conceivably, according to its accompaniments, either a pleasure or a pain.

Mr. McDougall's argument, which I began by summarising, makes one assumption, a natural one indeed: that if a sensation is pleasant the animal will seek it, and if it is unpleasant will avoid it. He is not willing to assume, unexplained, a conjunction of pleasure with benefit, but he does assume, unexplained, a conjunction of pleasure with seeking, and of the unpleasant with avoiding. It seems obvious to him, apparently, that pleasure is a thing that we shall seek and the opposite a thing that we shall shun. Why? If pleasures form a class through their intrinsic quality, why should that class as a matter of course have also the peculiarity that living creatures instinctively prefer and seek the experiences that belong to it and are never quite indifferent to them? I say "the opposite". But if the two classes have become classes through their different intrinsic qualities, why does it occur to us to call one the opposite

of the other? And if it be granted that it is indeed our attitudes toward them respectively that make them seem opposite why can it not be these attitudes that mark them off as two classes?

Locke declared that pleasure was "a simple idea," that is, one of the simple qualities presented in experience, like the colour red, which cannot be put together in thought, but to be conceived must be encountered. Burke, in treating of the beautiful, makes the same remark, using Locke's term. And for the most part this seems to be the assumption of psychology. It was certainly the assumption of the so-called Utilitarian school in ethics. The Utilitarians' account of motives, namely that men are moved by their interest reckoned in terms of pleasure and pain, seems to us pre-biological, the biological view being that they are moved by their instincts. The present analysis seems to render clear the connexion of the two accounts. It explains pleasure and pain in terms of instinct.

Our question was, Why are pleasure and welfare conjoined? It only remains to be added that the same analysis applies to welfare. It can have in the end no definition save as the state of being that our nature demands. Our nature demands life; and also certain conscious states that are found to be coupled with bodily states which make for life. Since the natural man does not know at first that these desired states are connected with healthy states and does not demand them for that reason, the question (our question) arises. By what happy chance comes it that his desires for particular conscious states are so often nicely fitted to further his desire for life? And the answer seems to be that this was brought about in the course of animal history by the conditions of survival.

DICKINSON S. MILLER.

PROPOSITIONS DIRECTLY ABOUT PARTICULARS.

In two recent numbers of MIND, Mr. J. A. Chadwick has offered suggestions concerning the analysis of singular propositions, and has shown how these suggestions are to be developed in detail.¹ The points with which he has been concerned arise in connexion with the fact that all singular propositions are directly about particular things, in a sense in which many general propositions are not. Thus, if ‘*a*’ is a name of an assigned individual, the proposition “*a* is extended” is directly about *a*; and in this same sense of ‘about,’ the proposition “Everything is extended” is about *a* only indirectly. Now “*a* is extended” entails “*a* exists,” which is directly about *a*; but it seems to be true as well that “*a* exists” follows from “*a* is not extended”; and the question arises whether there are any propositions directly about particulars from which the existence of those particulars does not follow. I understand Mr. Chadwick to be holding that there are such propositions; that, for example, the words “It is false that *a* is extended,” when properly understood, express a proposition which is directly about *a*, and from which “*a* exists” does not follow; though, of course, he holds that it is always also true in such a case that “*a* exists” expresses a fact. In opposition to this view, I have been maintaining that “*a* exists” follows from any proposition that is directly about *a*; and it is these two opposing views that I am going to discuss.²

First of all, we must endeavour to get as clear as possible the sense in which propositions may be said to be ‘directly about’ particular things; and here the questions that arise are difficult, though as a rule there is not much difficulty in recognising when this relation does hold. Sometimes we express the relation by saying that the particular is involved in the analysis of the proposition, or that it is a constituent of the proposition, or, when the proposition is true, that it is a constituent of the fact expressed; and I am going to discuss the relevant questions in connexion with facts rather than propositions. Consider, for example, two green sense-data, *a*, *b*, which are of different shades of green, and consider the fact that *a* is green, and the fact that *b* is green. It must be clear at the outset that these facts have precisely the same predicate, and that the circumstance that *a* is not of the same shade of green as *b* does not affect this. There is, of course, some fact about *a*, to the effect that it has a certain specific shade of green, which has a predicate different from that of the corresponding fact about *b*; but

¹ No. 143, pp. 347-353, and No. 148, pp. 471-484.

² See MIND, No. 143, pp. 342-346, and No. 145, pp. 73-81.

when we say that *a* is green, we are expressing the fact that *a* has some shade of green, not the fact, with regard to the shade that it does have, to the effect that it has that shade.¹ But let us turn to the subjects of the facts "*a* is green" and "*b* is green"; these subjects are numerically distinct and qualitatively different; and of course the mere circumstance that the subjects are numerically distinct renders the facts numerically distinct. Does the circumstance that the subjects are qualitatively different render the facts qualitatively different? If *A* and *B* are other sense-data, such that *a* is a part of *A*, and *b* a part of *B*, and such that the part of *A* that is outside *a* is exactly like the part of *B* that is outside *b*, then *A* and *B* must differ qualitatively because *a* and *b* do; but it is not at all clear that the relation of the subject of a fact to the fact is like that of part to whole in this respect, and my own view is that it is not, though I do not wish to insist upon this view. However, one immediate consequence of the view that qualitative difference of subjects does not entail qualitative difference of facts is that any fact of the kind "*x* is green" differs merely numerically from any other fact of that kind. But whether the view that leads to this consequence is admitted or not, it is clear that there can be mere numerical difference among facts; for everyone will admit that, if *a'* is a sense-datum other than *a*, but exactly similar to *a*, the fact that *a'* is green differs merely numerically from the fact that *a* is green. And this circumstance, that facts directly about particulars admit of qualitative duplication, gives us a criterion by which they can be distinguished from other facts; for it is clear that facts not directly about particulars cannot differ merely numerically, that, for example, there cannot be another fact indistinguishable from the fact that there are men. And if facts directly about particulars admit of qualitative duplication, so do propositions, and so do propositional functions, and if distinct facts not directly about particulars must be qualitatively different, so must distinct propositions and distinct functions.

If now we take the sense-data *a*, *a'*, *A*, with regard to which we are supposing *a* to be exactly similar to *a'* and to be a part of *A*, and attempt to suppose that *a'* replaces *a* as a part of *A*, and compare this with the attempt to suppose that *a'* replaces *a* as that which the fact that *a* is green is directly about, we see that the relation of *a* to the fact that *a* is green resembles the relation of part to whole in that both these relations are internal one way. The fact that *a* is green would not be that fact if it were not directly about that particular, whereas any fact about *a* only indirectly might be precisely what it is if *a* did not exist, and any proposition about *a* only indirectly would certainly have the exact intrinsic nature that it does have if *a* did not exist. A fact about *a* only indirectly would be what it is if there were such a fact at all; a proposition would be what it is whether it expressed a fact or not. (The supposition expressed here by the words "if *a* did not exist" will be analysed presently;

¹ Cf. Moore, *Proc. Arist. Soc.*, Suppl. Vol. iii., p. 101.

taken strictly as expressed, it is directly about a , and if a supposition to the effect intended must be expressed by a proposition directly about a , or even can be properly so expressed, then Mr. Chadwick's view must, I think, be right.)

Let us denote the class of all propositions that are not directly about particulars by C' , and the class of all those that are by C'' . Then C' falls into two sub-classes: C'_1 , consisting of all those propositions that are in some sense necessary, necessarily true or necessarily false, and C'_2 , consisting of the remaining, contingent propositions of C' . In the same way, C'' falls into two sub-classes: C''_1 , consisting of all those propositions that are either not possibly true or not possibly false, and C''_2 , identical with the remainder of C'' . The propositions of C'_1 are of two kinds: propositions in intension, C'_{1l} , such as "From the fact that a thing was green it would follow that that thing was coloured," or "From the fact that a thing was green it would not follow that the thing was round," and those in extension, C'_{1e} , such as "Everything is either not green or coloured". And the propositions of C''_1 fall into those in intension, C''_{1l} , such as "From the fact that a was green it would follow that a was coloured," and those in extension, C''_{1e} , such as " a is either not green or coloured". But when we come to the classes C'_2 and C''_2 , it is clear that we have only propositions in extension. Consider, then, the following propositions, where fx is a non-relational function, let us say " x is green," of which fa is a value:¹

- (1) It is true that fa . (C''_{2e})
- (2) From the fact that fa is an instance of fx it does not follow that fa is true. (C''_{1l})
- (3) From the fact that a proposition was an instance of fx it would not follow that the proposition was true. (C'_{1l})
- (4) It is true that $fa \vee \neg fa$. (C''_{1e})
- (5) From the fact that $fa \vee \neg fa$ is an instance of $fx \vee \neg fx$ it follows that $fa \vee \neg fa$ is true. (C''_{1l})
- (6) From the fact that a proposition was an instance of $fx \vee \neg fx$ it would follow that the proposition was true. (C'_{1l})
- (7) All values of $fx \vee \neg fx$ are true. (C'_{1e})

In accordance with the principle that *if a proposition is of such a kind that it can be known a priori, all its consequences are of that kind*, it must be held that (4) does not follow from (6), and generally, that no proposition belonging to C'' can be inferred from one belonging to C'_1 .²

¹ My formulation of propositions like these I take to be essentially the same as that of Prof. Moore, in his *Philosophical Studies*, pp. 284 ff.

² It is to be noted that (3) is a necessary proposition in the sense in which (6) is, though (3) is about a contingent function and (6) is about a

A careful distinction must be drawn between the sense in which (2), (4), (5) are necessary propositions and that in which (3), (6), (7) are; and we may, in this connexion, confine attention to (4) and (6). (4) is of such a kind that under any conceivable circumstances where it would express a proposition, it would express a fact, but, owing to its being directly about a particular, there are conceivable circumstances where it would not express a proposition; whereas (6) would express a true proposition under any conceivable circumstances. We may indicate this difference between propositions like (6) and those like (4) by saying of the former that they would have to be true, and of the latter merely that they could not be false. And what is meant by "could not be false" in the case of the proposition $fa \vee \neg fa$, which is an instance of the function $fx \vee \neg fx$, is pretty clear: an extensional proposition directly about particulars is such that it could not be false if and only if there is some non-relational function, of which the proposition is an instance, such that from the fact that the proposition is an instance of that function it follows that the proposition is true. (It is to be noted that, since fx means " x is green," $fx \vee \neg fx$ is a material function, not a formal one; but that $fa \vee \neg fa$ is also an instance of the formal function $p \vee \neg p$, and that from this fact it follows that the proposition is true.) However, it often seems to happen that a proposition is such that it could not be false where there is no purely formal function in connexion with which its truth can be inferred. Such a situation seems to arise in the case of " a is either not green or coloured"; and we may draw the relevant distinction here by saying of propositions like this one that they are conceptually certifiable, but not formally certifiable. It must be noted, however, that no proposition directly about particulars is certifiable on conceptual or formal grounds alone; all are in part empirical.) I will give one further definition, connected with the one just given: an extensional proposition directly about particulars is *contingent* if and only if every non-relational function of which the proposition is an instance is such that from the fact that the proposition is an instance of that function, it does not follow that the proposition is true, and does not follow that it is false; that is to say, if and only if every non-relational function of which the proposition is an instance is a contingent function.

tautologous one. Now there may be some sense in which (6) can be said to be, or to be equivalent to, a tautology, in accordance with Wittgenstein's dictum that all propositions of logic are tautologies; but it is clear that there is no sense whatever in which (3) can be said to be a tautology, though when such propositions are about purely logical functions, they express purely logical truths. And propositions of this kind occur very often in both logic and mathematics; in particular, in connexion with proofs concerned with the non-deductibility of one property, or proposition, from another. Thus, mathematicians have shown that the axiom of parallels of Euclidean geometry is not deducible from certain other axioms; and this fact is, of course, a purely mathematical fact, and is, according to the theory of tautologies, a fact to the effect that a certain function is not tautologous.

There is a circumstance resulting from the difference between (4) and (6) which we may note in particular, namely, that a contingent proposition can be incompatible with a proposition like (4), but not with one like (6). Consider, for example, such a statement as "*b* and *b* alone exists," or "Nothing exists". A proposition with regard to an assigned set of entities to the effect that they and they alone exist is never an impossible proposition, though every proposition of this kind but one is false. Thus, a solipsist who designates his sense-data, and says that they alone exist, cannot be refuted on logical grounds; but if *a* is not one of the solipsist's sense-data, what he says is incompatible with "*a* is either not green or coloured," because it is incompatible with the fact that *a* exists. And in contrast to the fact that there are contingent propositions incompatible with members of C'_1 , we have the fact that a proposition incompatible with a member of C'_1 belongs to C''_1 or to C'_1 according as it is or is not directly about particulars.

This leads to a question noted above, where the words "if *a* did not exist" were used. If we are to make an intelligible supposition contrary to fact, it must be expressed by a contingent proposition; and it is essential to my contention that the words "It is false that *a* exists," being directly about *a*, express a proposition from which it follows that *a* does exist, and so fail to express an ordinary contingent proposition. We often make suppositions to the effect that certain things do not exist; and we do this, I think, by supposing contingent propositions which are incompatible with any statement directly about these things, not by saying with regard to assigned things that they do not exist, because, as will be maintained presently, such assertions express impossible propositions of the class C''_1 , and so do not constitute intelligible suppositions. As a rule, we do not suppose such contingent propositions directly; we describe them, and suppose that they are true. Thus, a supposition to the effect that this table, *t*, does not exist can be made as follows: Consider the proposition which asserts with regard to each thing except *t* that that thing exists, and which asserts, further, that these things are all; and suppose this proposition to be true. In this connexion, it is worth noting that, apparently, we cannot make suppositions to the effect that certain things do not exist by saying that nothing of a certain kind exists. Of course, I cannot say with regard to a thing at which I am looking, "The thing at which I am looking does not exist," because this means "There exists one and only one thing at which I am looking, and that thing does not exist," which is flatly self-contradictory; so I shall have to say instead, "There is nothing at which I am looking". But this latter is not incompatible with the existence of the thing at which I am in fact looking, but only with the fact that I am looking at it. And in the same way, the contingent assertion "There are no tables" is not incompatible with the proposition about this table, *t*, expressed by "*t* exists," but only with the proposition "*t* is a table".

The foregoing considerations do, I think, remove any objection to the view that "*a* exists" is not an ordinary contingent proposition which might be raised on the ground that we certainly can, in some way, suppose things with which we are acquainted to be non-existent; and there remains the question whether "*a* exists" is or is not in fact a contingent proposition. My reason for holding that it is not, and that, instead, it is a proposition belonging to the class C_{1e} , is simply that the following propositions, which are analogous to (4)-(7) above, are all true :

- (4') It is true that *a* exists.
- (5') From the fact that "*a* exists" is an instance of the function "*x* exists" it follows that "*a* exists" is true.

(6') From the fact that a proposition was an instance of "*x* exists" it would follow that the proposition was true.

(7') All values of "*x* exists" are true.
That all values of "*x* exists" are true can, therefore, be known *a priori*, in virtue of (6'), and is thus to be contrasted with a merely factual universal—with, say, "All men are mortal," where the corresponding proposition in intension is "From the fact that a proposition was an instance of '*x* is either not human or mortal' it would not follow that the proposition was true". But although "*a* exists" is not contingent, it can be said to be necessary only in a sense which is compatible with the fact that the contingent proposition "Something exists" follows from it.

We have now to ask whether "*a* exists" follows from propositions like "It is false that *a* is extended". And here it may be argued that "*a* exists" does follow because, as we have seen, a particular is internally related to any proposition directly about that particular. I understand Mr. Chadwick's view to be that "It is false that *a* is extended" is logically equivalent to "*a* is not extended or it is false that *a* exists," where the first alternative, "*a* is not extended," is held to entail "*a* exists," and the second not. But it is not easy to see what reason can be assigned for holding that "*a* exists" follows from the first alternative except that *a* is internally related to that proposition, and this reason is, of course, equally applicable in the case of the second. It is true that "*a* is extended" can be held to entail "*a* exists" on the ground that 'being extended' entails 'existing,' but this ground is lacking in the case of "*a* is not extended". Again, it may be argued that since "It is false that *a* exists" is an impossible proposition, "*a* is not extended or it is false that *a* exists" is simply logically equivalent to "*a* is not extended"; but if it is assumed that "*a* is not extended" entails "*a* exists," then whether this equivalence does hold depends upon whether "*a* exists" follows from "It is false that *a* exists". And I think it will be agreed that we may confine attention to this latter question; if it is to be answered affirmatively, then my view would seem to be right; if it is to be answered negatively, then some view like the one advanced by Mr. Chadwick is right, though I have just indicated that, in the event of a negative answer, I prefer a view

according to which "*a* exists" does not follow from "*a* is not extended," and in which, accordingly, no distinction is drawn between this latter proposition and "It is false that *a* is extended".

Now I can imagine its being urged that, despite the fact that "It is false that *a* exists" is an impossible proposition, "*a* exists" does not really follow; for it may be said that when we assert "It is false that *a* exists," we are not saying also that *a* does exist—that is to say, we are not expressing a contradiction. And I agree that we are not; "*a* exists" is not a part of what we are asserting, in the sense in which *p* is a part of what we are asserting when we say "*p* and *q* are true," and we are not expressing a contradiction in the sense in which we should be expressing one if we said "*p* is both true and false". But a logical consequence need be no part of what is expressed when a proposition is asserted; for what a proposition entails does not arise in connexion with the assertion of the proposition, but in connexion with the assertion of facts about the proposition. And there is, of course, a fact about "It is false that *a* exists" to the effect that there are no conceivable circumstances such that, if those circumstances were realised, "It is false that *a* exists" would express a fact and "*a* exists" fail to express one; though the situation here is peculiar, because there are no conceivable circumstances under which "It is false that *a* exists" would express a fact.

C. H. LANGFORD.

V.—CRITICAL NOTICES.

The Will to be Free: A Critique of Deterministic Theory and a Vindication of Real Alternatives in Human Purpose. By HOWARD V. KNOX. With a Preface by L. P. Jacks and J. A. Stewart. London, Constable & Co., 1928. Pp. xvi, 237. 10s. 6d. net.

CAPTAIN KNOX has written a brilliant and very subtle book in which philosophers of all schools can find abundant instruction. It is a good deal more than a contribution to the Free-Will controversy, which it really uses as a peg or example to which to attach discussions of some of the most ultimate questions of logic and epistemology. The book, which is equipped with a graceful Preface by Dr. L. P. Jacks and Prof. J. A. Stewart, is divided into seven parts, forty-two short chapters, each sub-divided into from three to ten sections, and as the print is good and large, it is not really long. But its contents are so very 'meaty' and its style is so concise and pungent, that it is emphatically not a book to be 'skipped,' and he who reads it in haste is likely to repent at leisure.

Its declared aim is to *explore* the meaning of 'freedom' and 'necessity' alike. "It seeks to show, not that there is no such thing as Necessity, but rather that, from first to last, the worst foes of a really intelligible Necessity are determinists themselves" (p. 8).

Determinism is regarded as essentially a conflation (how subtle, ambiguous, and deceptive the argument proceeds to show) of the Deterministic Principle and the Deterministic Argument. The former seems to assert merely the truism *whatever is must be*, while the latter applies this 'necessary presupposition of intelligence' to the special case of volition, and infers that will must be as necessary as everything else. Necessity having been made the essential mark of 'truth' (Sigwart), a 'free' will becomes simply unintelligible (Bradley), and determinism indisputable.

To meet this crushing attack voluntarists have usually changed the *venue* from Logic to Ethics, and pleaded apologetically that Logic is not the whole of life, without attacking the Logic of Determinism. It was, however, a 'strategic error,' Captain Knox thinks, to admit that "determinists really have logic, and not merely 'Logic' on their side" (p. 20), and he prefers "the alternative method of counter-attack on the Logic of Determinism as such" (pp. 17-18). This is the way to reform the notions of 'necessity,' 'logical coerciveness' and ultimately intellectualist 'logic' itself; for the 'indisputableness' of its conclusion may be taken as a *reductio ad absurdum*.

Accordingly Captain Knox proceeds to point out the devastating consequences of the Deterministic Argument, when impartially applied to cognition as to volition. Although orthodox logic and orthodox psychology are both committed to determinism yet this by no means renders them compatible. The 'necessity' alleged by the Deterministic Principle was logical, and inherent in the true alone; but that of the Deterministic Argument is definitely psychological, and inheres in all mental process, true or false, irrespective of its cognitive value. Thus "in accepting responsibility for the birth of the monstrosity called 'psychological necessity,' logical 'necessity' becomes *felo de se*. Truth, as such, is finally laid to rest, and can trouble us no more. That, incidentally, is the real problem of Hume; which Kant not only did not answer, but did not even attempt to answer" (p. 36). By this 'direnption' into the psychological and the logical "necessity is literally exploded" (p. 38). The only reasons for not declaring this conflict between logic and psychology the end of determinism are that we should thereby be accepting self-contradiction as a formal proof of falsity and indisputability as the ideal of truth, and that we have not yet discovered the "undisclosed purpose of the deterministic manœuvre" (p. 38).

Psychology, moreover, has its own troubles with freedom. To have disposed of freedom logically is not enough; it persists as an 'illusion'. Having slain the belief, psychology has "still to dispose of the corpse" (p. 43). Either the will to be free is psychologically as well as logically unintelligible and so defeats the principle that 'only the intelligible is real,' or the assertion that freedom is unintelligible recoils on the competence of psychology (p. 44). Can it be that freedom may transcend 'intelligence' as determinism understands it? Certainly there is no room for it in a world which is solely an object of intelligence; but if so what can be the meaning of the psychological assurance that the will is determined too?

Chapter 10 invites determinism to distinguish its 'necessity' from 'fate,' on the ground that "until this ambiguity is finally resolved, Determinism is, in very truth, a doctrine that cannot be intelligibly denied; for the very simple reason that we cannot say what it means".

Part III, 'Determinism as "Scientific Method" in Philosophy' points out that the characteristic of 'pure' science is the abstraction from personality, and that in the division of the sciences into those of nature and of mind "neither of them undertakes to inquire into the part played by mind in shaping the course of events in the physical world" (p. 60), and that "if the only way of making purposive action 'scientifically intelligible' is to treat it as if it were not purposive, then so much the worse for 'scientific intelligence'" (p. 62).

As applied to will, moreover, scientific determinism is intrinsically ambiguous. In its 'A' form it professes to maintain the reality of human purpose, though explaining it deterministically; in its 'B'

form it aims at getting rid of it altogether, denying the existence of consciousness, and setting up a system of Pure Materialism. This ambiguity is really essential to preserve a unitary meaning in determinism (p. 73). Hence the two versions are never allowed to fight, and pure behaviourism is never disavowed. Moreover, by drawing an absolute distinction between 'theory' and 'practice,' Intellectualism is able to expunge all reference to human interests from 'theory' and so covertly to commit science to behaviourism, which, after discarding will as 'unreal,' can still boast itself to be an all-inclusive truly self-supporting system (Ch. 17). This follows inevitably from the refusal to recognise will as *sui generis* (p. 101). Hence "the special logical interest of the Deterministic Argument lies in the fact that the ambiguity does not affect just the one term of 'voluntary action,' but pervades the argument as a whole, and particularly affects that notion of 'necessity' whose perfect intelligibility logicians seem to take for granted" (p. 102).

This result throws light on the nature of 'logical necessity'. The 'formal necessity' of the 'conclusion' of the Deterministic Argument is "no guarantee whatsoever of its real truth," and its internal necessity "yields no clue to the intention of the person who uses it" (p. 104). Its 'nominal' conclusion is "not necessarily the real conclusion" and "in a 'purely impersonal argument' there is not, and cannot be, any real conclusion at all". Thus "one man's logical demonstration of the truth of a certain 'conclusion' is another man's *reductio ad absurdum* of the 'principle'" (*ibid.*). Considering the Deterministic Argument as a whole, then, its indisputability rests only in part on the alleged indisputability of the Deterministic Principle, but even more on "the wholly indeterminate meaning of 'will'" (p. 113). Its "conclusion" rejects, indeed, the reality of freedom; but must not be taken as necessarily accepting the reality of will" (*ibid.*). Indeed, to get rid of that may be "the real intention of the argument, in so far as it has any real meaning at all"; anyhow, "the deterministic 'conclusion' is logically meaningless in the exact degree in which it professes to be indisputable" (*ibid.*).

Parts V and VI, which are devoted to 'Indisputable Truth' and 'Self-Contradiction' respectively, may be regarded as special applications to logic of the discoveries about the nature of indisputability, meaninglessness, and the Laws of Thought resulting from the analysis of determinism. They are justified by the fact that in the end determinism appeals neither to experience nor to human needs "but to the basic principles of Logic" (p. 125). They are full of interest and keen criticism; but in order to keep this review within tolerable length I can do no more than give Captain Knox's chapter headings, *viz.*, The Principle of Identity as Logically Meaningless—The Victory of Grammar over Logic in the Traditional Logic—The Law of Excluded Middle as an Example of 'Indisputable Truth'—The Laws of Thought as a Coherent System—On Meaningless Questions and Nonsensical Answers—On the Advan-

tages of Ambiguity—The Inner or Real Meaning of ‘Self-Contradiction’—The Logical Value of ‘Self-Contradiction’—Real Self-Contradiction and Ambiguity—Real Self-Contradiction and the Self.

Part VII, ‘the Logic of Voluntarism *versus* the Logic of Determinism,’ returns to the problem of determinism, and after summarising the first four parts and reducing the function of the Deterministic Argument to a modest “object-lesson of the logical futility of the ideals of Formal Logic” (p. 201), adds that “to the Necessary the natural and necessary correlative . . . is the Optional” (p. 210), seeing that ‘chance’ in the end is a sort of necessity too, *viz.*, that “born of ignorance, of which, so long as it endures, man is necessarily the slave” (p. 211). Chapter 38 then formulates the ‘strictly logical’ dilemma of Determinism (p. 222), and Chapter 39 its culminating ‘catastrophe’. “Determinism as commonly ‘understood’ consists in the nominal inclusion of will within a system which is expressly designed to exclude it” (pp. 225-226), and is “not so much an error as a lie” (p. 225). On the other hand (p. 232) “Will is freedom. In effect, deterministic theory actually acknowledges that identity; for . . . it cannot get rid of the one without sacrificing the other. That . . . is the real lesson of the deterministic ambiguity.”

I think it will be admitted by all, whether they sympathise with Captain Knox’s enterprise or not, that he has lifted the free-will controversy onto a new level from which it will not be easy to drag it down again in future. For my own part I not only sympathise, but assent to practically all he says. My only criticism would be that he does not quite say all. He does not, for example, attempt to give a positive theory of will or to analyse what happens in an act of free choice. Nor does he quite bring out, I think, the real merits of determinism and the real meaning of the scientific abstraction from personality which he condemns. This is not to say that he is unfair to the determinism he attacks and is out to kill, the purely *dialectical* determinism, which is only bent on absorbing all things in a metaphysical construction for idle philosophers to contemplate. But it does mean that he does not distinguish it sufficiently from the *working* determinism of the sciences, nor point out that the *latter* is capable of an interpretation which renders it quite innocuous to the voluntarism he champions.

After all, determinism *may* be understood (and *used* by the most ardent voluntarist) as a *methodological* postulate which has merely the purpose of *facilitating* (one should *not* say ‘rendering possible’) *calculation*, which is an important scientific and human purpose. So used, it does *not* prejudice any question about the nature of will nor constitute an argument for any metaphysical or logical theory. It would have been better if Captain Knox had made this more explicit, instead of allowing dialectical determinism to annex scientific determinism, and to take all the credit for its achievements.

Similarly he seems somewhat to exaggerate the scope of the

scientific abstraction from personality. It does not necessarily mean that the individual is incapable of scientific treatment and that science is not interested in personality, though it has often been so interpreted. It arises rather from two facts about Scientific Method, which are only now beginning to be understood. The first is that most scientific 'laws' are based on the observation of *averages* and are consequently *statistical*; therefore they necessarily neutralise and cancel out the divergencies of individual cases. So the scientist is compelled to ignore them, and entitled to assume that, if they exist, they do not concern him. But he need not (and should not) assert that they do not exist, and in point of fact he often discovers them when he comes to apply his 'laws'. The second is that, though *in the abstract* the scientific 'law' is an abstract universal which seems to contemplate no particular case, yet so soon as it is *used*, definite values must be given to its variables, and that then it *does* apply to individual cases. Moreover, it is *intended* to be used, and is an instrument for the prediction of individual cases. Thus it abstracts from personality only in order the better to handle personality. And it is time scientists recognised that nothing has done more deadly harm to science than the intellectualist divorce between 'theory' and 'practice,' 'pure' science and applied.

On the other hand, Captain Knox has *not* exaggerated the sinister effects of intellectualist 'logic,' from which science has been quite as great a sufferer as common-sense and practical life. His exposure of its inanity and trickery is certainly the most impressive feature in his book, though it has had to be syncopated in this review. It should certainly prove to be a long nail in the coffin of Intellectualism, if not a dagger in the heart of the vampire. At any rate it is an effective showing up of the crude logic and barbarous metaphysic which hope to trick and bludgeon us into unconditional surrender by using the 'Law of Contradiction' as an absolute criterion, and have the face to appeal to Hegel, "the first real logical heretic," to sanction their monstrous procedures. The way Captain Knox turns the tables on this appeal in Chapter 24 is particularly neat.

His book should also do much to kill the thoughtless but constantly reiterated myth that a rejection of intellectualist logic is a revolt against reason (*cf.* especially p. 216). Prof. Muirhead was no doubt exaggerating recently when he declared that philosophers were all voluntarists now (*The Problem of Truth*, p. 8); but yet this day, the day of reckoning for an ill-omened theory which has too long distorted science and tyrannised over life, when this dictum will be true, may be much nearer than most intellectualists are now willing to imagine.

F. C. S. SCHILLER.

Fundamental Problems of Life, an Essay on Citizenship as Pursuit of Values. By J. S. MACKENZIE. London: George Allen & Unwin, 1928. Pp. 384.

THIS work is divided into two Parts. Part I, entitled 'The Problem of Value,' deals with Value, both generally and in its several species, and with its metaphysical implications. Part II., entitled 'The Problem of Citizenship,' sketches the history and present position of social theory, distinguishes the main kinds of social groups, and then deals more fully with the nature of a great modern Commonwealth, and with the main aspects of human life as lived in it. Special attention is paid to the wider international problems of modern political theory.

The book thus looks at first sight like two treatises put together. Prof. Mackenzie explains in the Preface how it came to take this form. "It was begun as a short treatise on Citizenship, with special reference to the problem of World Citizenship; but it was soon found impossible to deal with the subject at all satisfactorily without some discussion of the values that are aimed at in human life. I tried at first to deal with these in the course of the discussion of the problems of citizenship; but this proved to be somewhat confusing. Hence I have been led to consider the general significance of value before entering upon the treatment of citizenship." The first part is in fact intended to supply a philosophical background for the second, and to show how social problems are connected through the notion of Value with the problems of general philosophy.¹ The second Part is much the larger, extending to some 260 pages as compared with about 100 pages in the first.

In Part I. Mr. Mackenzie begins by pointing out that the conception of Value is applicable primarily within the sphere of human life as contrasted with that of nature, and that, while the term value was at one time a technical term of economics, we now apply it in another and deeper sense to things such as Truth, Beauty and Goodness, which have intrinsic and not merely instrumental value. A short chapter on the Value of Truth, after some introductory remarks on the different views that may be taken of this value, gives

¹ Mr. Mackenzie is here in agreement with a suggestion of Bosanquet's that it is the study of values which distinguishes philosophy from the special sciences. In this connexion he says that in the later editions of *The Philosophical Theory of the State* Bosanquet "modified his earlier statements to a considerable extent". This statement is inaccurate or at least misleading. The text of the book remained almost wholly unchanged in the successive editions and was merely supplemented by an explanatory Introduction and some footnotes. In an addition made to the Introduction in the third edition Bosanquet refers to questions made prominent by the War, and also takes occasion to refer in extremely appreciative terms to Miss Follett's book, *The New State*, from which he quotes a few passages. To say, however, that "the general ideas" of this book "were to a considerable extent incorporated in the latest edition of Bosanquet's" (p. 145) is to give a totally false impression of the facts and of the relation of the two writers.

a brief account of the theories of truth, and concludes that the Coherence theory is the most comprehensive. But the question arises, how far we can apprehend reality as a coherent system. A short discussion of this question is given in a chapter on Appearance and Reality, and the metaphysical question as to the nature of reality is further discussed in a chapter on Nature and Spirit.

For the purely philosophical student this chapter is probably the most interesting in the whole book. Mr. Mackenzie is anxious to do full justice to both sides of the antithesis and especially to recognise fully the extent to which naturalistic explanation can be carried. On this latter point he is unusually emphatic. "When full account is taken," he says, "of all these elements [*viz.* the elements derived from inheritance and social environment] in the building up of a human personality, it may well seem that there is nothing of any real importance that has to be considered as purely spiritual in the explanation of it; that it may be completely accounted for by external influences; and that, in the end, there is nothing in spirit that may not be traced back to nature. We thus appear to be led to a purely materialistic interpretation of the Universe; and I wish it to be distinctly understood that, so far, such an interpretation appears to me to be perfectly reasonable" (p. 45). "What has to be set against it," he continues, "is a consideration that arises only when we seek to interpret the Universe as a whole." But this statement seems not quite to represent his real contention, which is rather that "the human mind, whatever its origin and history may have been, becomes constructive in a sense in which nothing else that is known to us can be said to be so" (pp. 46-47). The question is then whether this constructiveness is an "emergent" characteristic or was somehow implied from the first; and it is to the latter alternative that Mr. Mackenzie inclines, for he tells us later that "the Source [of what happens in space and time] may perhaps be best thought of as a spiritual Reality which achieves values through a creative process" (p. 94).

Chapter v. deals shortly with some of the main questions in regard to the nature of moral Goodness. Chapter vi. deals with the value of Beauty, and is closely connected with the next chapter—on Intrinsic and Instrumental Values—in which the whole discussion of Value is summed up. Mr. Mackenzie's final doctrine about values does not seem to me to be very clearly or consistently worked out. The view to which he evidently now inclines is that Beauty is "the final form of pure Value" (p. 69), or that "Beauty and its correlate, Joy, are the central elements in Value" (p. 76); but this view is hedged about with qualifications that go far to take away its distinctive character; e.g. "it does not seem possible to isolate the intrinsic values from one another, or to affirm that any one of them has, by itself, an importance that is superior to that of the others" (p. 80). There is even "a sense in which goodness as the supreme worth . . . may be said to be the highest of all the values". "If there is to be any order of excellence among the intrinsic values,

... Goodness should be placed first, Beauty second. . . . The *Worth* of Goodness lies in the effort to create Beauty, and thus to give it *Reality*" (p. 83). This last statement seems to me not true in itself and not consistent with the immediately preceding one.

The chapter on Religion does not call for much remark. Mr. Mackenzie seems to cherish a vague hope of an approximation between some sort of philosophical Hinduism and Christianity (pp. 90, 237)—an idea which is not likely to commend itself to Christian theologians, but which may be partly explained by his view that religion depends for its ultimate basis on a metaphysical theory of the universe (pp. 242, 239). He makes some reference to Otto's book, and one is glad to see that he is not much impressed by it. The last chapter in Part I. is on Social Values and is introductory to Part II.; it deals briefly with such topics as the conception of a Common Good and the formula 'Liberty, Equality and Fraternity'.

Although Part II. is much the longer, it traverses more familiar ground, so that much of it may be passed over with a bare mention. Chapter i. gives a short survey of ancient and modern theories of society. Chapter ii. on 'The Present Outlook in Social Theory' discusses the conception of a General Will and the nature of co-operative action. Here and elsewhere in the book Mr. Mackenzie is inclined to make a good deal of the idea of co-operative creation as expounded by Miss Follett. I am afraid he is likely to give a reader who is not acquainted with that writer's books an exaggerated notion of their importance. Chapter iii. gives a short account of the main kinds of co-operative groups, e.g., the Family, the Neighbourhood, the Church, the State, etc. Mr. Mackenzie proposes to use the term Commonwealth "to characterise a community of a more comprehensive kind than most nations and including some diversity of races" (p. 188), but he admits that there is no sharp division between this and other types of State, and, so far as I see, most of what he says in chapter iv. ('The Idea of a Commonwealth') might apply to any great civilised State of the present day. The results of this latter chapter are summed up as follows. "There are three main aspects in the life of any well-organised community. There are the various vocations in which people work, and by which the necessities and conveniences of life are supplied. This is the sphere with which the study of economics is concerned. Next there are the leisurely occupations, which are essentially educational or cultural, aiming at the production, not of what is necessary or convenient for life, but rather of the substance of life itself, what is desirable or necessary for the best kind of life. It is this that constitutes what is sometimes referred to as the soul of a people. In the third place, there is government—the organisation by which the life of the community is directed, so far as this is necessary, by which it is protected from without and from within; the power that guides and, if necessary, coerces" (p. 207). The next four chapters are taken up with a fuller discussion of these three aspects in the

life of a commonwealth and their relation to each other. Chapter ix. deals with 'The Problem of a World Commonwealth,' and the last chapter is partly occupied with a general summing up of Part II., partly with a brief consideration of some of the problems of the future, especially those that concern the Family.

I will refer very briefly to two topics discussed in Chapter ix. Like some other recent writers Mr. Mackenzie seems to suggest that the time has definitely come when Humanity must take the place of the State as the fundamental fact for political theory. "Once it is recognised that there are larger modes of co-operative life than those that are contained within the limits of a single nation, there is no obvious stopping-point short of the whole human race" (p. 320). "The consciousness of community has gradually extended itself from the family to the tribe, and from the tribe to the nation; and it can hardly be doubted that we have now reached the stage at which it must definitely extend itself to humanity" (p. 325). Yet immediately afterwards we learn that "it must be admitted that the national point of view is prior to the international" (p. 326), and that "it is rightly felt even now by some nations—among others, by the United States—that they must not sacrifice the substance of their national life for the shadow of a more extensive world order" (p. 327). If these latter sentences express what is right from the point of view of practical statesmanship, surely the phrases about Humanity are little better than rhetoric. Mr. Mackenzie is led by McDougall's example to discuss the question of "the different degrees of importance that have to be attached to different nations in an international grouping". "Up to the present," he points out, "the tendency has been to assign special weight to those nations that can be regarded as Great Powers," and he thinks that the degree of weight should be based "upon some other test than that of their ability to wage war" (p. 337). McDougall, we are told, has suggested that the degree of weight might be made to depend "on the amount of their expenditure on education"—a suggestion which it is difficult to take seriously. Mr. Mackenzie thinks that "the actual productivity of different nations in science, art, literature, and invention would give a more convincing basis for judgment" (p. 340). The reflection which may suggest itself most forcibly to the reader is that philosophers would do well to leave all such matters to the practical statesmen whose business it is to deal with them.

Within the limits which he has fixed for himself, Mr. Mackenzie's book is excellent. I can perhaps suggest its quality most easily by saying that it would have furnished an admirable course of lectures for students of philosophy who were beyond the elementary stage or for a wider audience interested in the application of philosophy to life and social problems. At times, no doubt, such audiences would have found that too much philosophical knowledge was presupposed, but they would have found themselves always interested, often stimulated to further thought, and certainly never wearied by too prolonged discussion or too much detail. In the book the

numerous references to recent literature given in the footnotes furnish the reader with a guide to further study. The book is very well written, in a smooth and easy style whose only fault perhaps is that qualifying expressions like 'somewhat' are too freely used —in one place an event is described as "somewhat deplorable and even tragic". But the qualifying epithets are only an indication of the scrupulous moderation and entire absence of dogmatism which are characteristic of Mr. Mackenzie's whole treatment of his subject: he states the various considerations which have to be kept in view in dealing with a problem and is content to suggest in quite tentative fashion the view to which he himself inclines. Readers who have already some familiarity with the ground which Mr. Mackenzie traverses will be likely to regret that he has limited the scope of his book so strictly, and that he has so often denied himself the space in which to discuss important topics with the fulness which would be required in a systematic treatise. I imagine that Mr. Mackenzie's reluctance to dogmatise on fundamental problems makes him averse to anything like a cut and dry detailed exposition and inclines him to prefer a method of treatment that limits itself to outline and suggestion.

H. BARKER.

The Correspondence of Spinoza. Translated and edited with introduction and annotations by A. WOLF, Professor in the University of London, etc. London: George Allen & Unwin, Ltd., 1928. Pp. 502. 15s.

MR. WOLF has imposed upon himself the task of attempting to produce a complete English translation of the works of Spinoza in time for the tercentenary of 1932. The enterprise is bold and arduous, but its successful accomplishment would leave English-speaking students deeply in debt to the translator. Successful translation, however, is rare, demanding as it does very special talent if both the Scylla of mechanical literalism and the Charybdis of expository amplification are to be avoided. In the strict sense, of course, the problem of the translator is insoluble, since the balance of what is overtly stated and what is only suggested, assumed, or implied (and both elements are essential in every discourse) is affected by the idiom of a new language. Furthermore the translation of a writer such as Spinoza demands intellectual qualities of an uncommon type if the precise significance of his speculation is to be conveyed. It follows that a right judgment of any example of translation will depend very largely upon the nature of the matter: where the thought is loose and cursory, as for example in *La Vie de feu Monsieur de Spinoza* which Mr. Wolf translated a year or two ago, the demand will be less exacting than where the thought is precise and of far-reaching importance, as it is in Spinoza's correspondence and his important treatises. The standard of accuracy sufficient in

the former case will not ensure success in the latter, for slips which were there quite venial may very well here become mortal.

Moreover, it must be remembered that the chief works of Spinoza have been translated into English repeatedly (though often badly) and there is, therefore, the less reason to encourage new attempts by any but the specially gifted. Enthusiasm is not enough. The case is undoubtedly different with the works which so far have been translated by Mr. Wolf. His well-known edition of the *Short Treatise on God, Man, and His Wellbeing*, published with other matter in 1910, is the only translation of that early Dutch work into English, and would, therefore, have been heartily welcomed even if its merits had been low; and the new venture which is the subject of this notice is the first complete English translation of the known correspondence of Spinoza, and is therefore welcome by reason of its completeness. Mr. Wolf, indeed, reports that it is the most complete translation into *any* language, and he adds with some pride, "it is believed also the most accurate" (p. 68). So far as this belief refers to English translations assent is easy, for the vaunt is not excessive: a fact which possibly led Mr. Wolf to make the wider claim, which it would be ungracious to discuss.

The volume is divisible into three sections: the first seventy pages being devoted to an historical, biographical, and critical *Introduction*, in which the philosophy of Spinoza is placed in its setting; we are given succinct details of the lives and characters of Spinoza's correspondents; and the importance of these "epistolary dissertations" is insisted upon. The second section of the volume contains the *Translation* of the letters, and occupies a little under three hundred pages which, wisely or not, are kept entirely free from translator's notes, comments, and even 'superior signs'. The remainder of the volume consists of rather more than one hundred pages of *Annotations*. We may consider these sections *seriatim*.

The *Introduction* contains a good deal of interesting matter very curtly expressed. The biographical notes are particularly useful and are probably sufficiently detailed to fulfil their purpose. Like other recent writers on Spinoza, however, Mr. Wolf finds it necessary to exaggerate the independence of Spinoza from Descartes, and grossly to depreciate the philosophical attainments of the founder of "the new philosophy". But surely to be the "reformer of the new philosophy" does imply a considerable debt to its founder; one does not need to be "skilled in the tricks of Hegelian dialectic" (p. 31) to perceive that simple truth. The sections of the *Introduction* devoted to Descartes are written with a partisan and almost journalistic passion, and Mr. Wolf gives the impression that he feels a personal grudge against Descartes, and that for him the promotion of Spinoza depends upon the degradation of his predecessor. The recognition of sources other than Descartes need not imply that Descartes was not a source; nor need the fact that Spinoza was never a Cartesian imply that his theory would have taken the form it did if there had been no Descartes. Undoubtedly the writings of Spinoza do reveal mediaeval and scholastic influences

(as did also the writings of Descartes), and it is to be hoped that when someone discovers that Spain itself was not without influence on our philosopher over and above the modification of his spelling, we may still be disposed to believe in the importance of Crescas, Maimonides, and Descartes in providing the matter and the site for that new critique and synthesis which constitutes the original philosophy of Spinoza.

The same general attitude to his subject seems to inform several of the arguments of the Introduction: it is too readily assumed that to disagree with Spinoza is to be incapable of understanding him. One may believe as firmly as Mr. Wolf in the general satisfactoriness of the theory of Spinoza (so far as he lived to work it out) and yet not count all dissentients and questioners as fools. For the philosophy is palpably unfinished, and the elements which are lacking might well appear to some minds, approaching the subject from special angles, as of the highest importance. The attitude of patience, courtesy, and impartiality which Spinoza himself adopted towards his correspondents might well have been taken as the norm at which even an enthusiastic disciple should aim.

It is to the section of the Introduction on the philosophical importance of the correspondence that the student of Spinoza turns with keenest interest, and, it must be said, turns away with greatest dissatisfaction. The section is, of course, much too short for the adequate discussion of such important matters as Mr. Wolf introduces. His thesis is that the letters give "more homely" accounts of some important matters, and accounts less liable to misinterpretation than the "more formidable" presentations of the treatises. In illustration of this rather doubtful thesis three basic problems are taken: (a) the relation of the Attributes to Substance; (b) the significance of the use of geometrical illustrations; and (c) the nature of the Attributes. The discussion of these points, containing assertions, as it does, which would not commonly be accepted without dispute, is extraordinarily slight. We do not need to go to the letters to discover that a subjective interpretation of the Attributes was never in the mind of Spinoza. Further, in spite of his preference for genetic definitions, it is impossible to suppose e.g. that he regarded rotation (which occupies time) as essential to the circle; for during the rotation the figure is incomplete, and when that is complete the rotation is ended. That the use of genetic definitions is significant cannot, of course, be denied; that it does imply a "dynamic" interpretation of reality must be true in one of the undefined meanings of that "blessed" term; but the precise significance of such matters could hardly be adequately discussed, or even expounded, in a page and a half, and it is mischievous to attempt it. The third example taken would be even more open to cavil if we were dealing with the article on *Spinoza's Conception of the Attributes of Substance* to which Mr. Wolf refers his readers for a fuller discussion of his view of the "dynamic" nature of the Attributes, and of Substance which is their "organic totality" (*sic*). Further discussion would be out of place for the reason given, and though there

is little doubt that he is feeling his way towards an interpretation of Spinoza which would be of some interest, it cannot be supposed that the assertion that "for Spinoza Extension or Matter (*sic*) is essentially Physical Energy" can be of much value in the absence of some definition and defence. The introduction of such crude undigested matter in this volume is wholly to be deplored.

In turning to the *Translation* itself it is necessary to express regret that Mr. Wolf has been unable to accept the suggestion made in the review of his last book (MIND, N.S. xxxvi, p. 512) to print the text side by side with the translation. It is unnecessary to emphasise the advantages of such a plan both for the translator and for the student (to say nothing of the convenience of the reviewer). If the text could be seen at a glance the translation could be much freer, and therefore more accurate, without the danger of straying too far from the *ipissima verba* of the author. Modernised diction could then be quite freely used, and many of the more irritating stylistic blemishes of Mr. Wolf's work might have been avoided. But even in the absence of the text it is difficult to see why he pertinaciously attempts throughout the eighty-odd letters a literal translation of Latin modes of address such as "*Præstantissime Vir et Amice Colendissime*", "*Amice Plurimum Colende*", and so forth. When the editors of the *Nagelate Schriften* (1677) were content to use the simple *Myn Heer* or *Myn Heer en waarde Vrient*, and Saisset (1842) to use *Monsieur*, *Mon cher Ami*, or at most *Monsieur et respectable Ami*, surely a sufficient variety for modern tastes might have been found among our usual Sir, Dear Sir, My dear Sir, My dear Friend, etc.; and such forms would correspond with the modernised diction of the main body of the translation. Mr. Wolf's literalism in these matters becomes almost unbearable on occasion, e.g., in Letters VI and XIII where the phrase "the very illustrious Mr. Boyle" occurs rapidly again and again *ad nauseam*, as a translation of the unobjectionable Latin: *Vir clarissimus. Nobilissimus Boylius* (p. 110) might have been conveniently rendered "the Honourable Mr. Boyle" with titular accuracy; "the most noble Boyle" sounds ridiculous to English ears, as also does "my very delightful friend" (p. 123). Let one further instance suffice, viz., the heading to Letter XII: "To the Very Learned and Very Expert L.M."! It is the more noteworthy that *Præstantia Tua* (p. 306) is not translated "Your Excellency", nor is *Dominus* rendered "The Master", but "Sir", substituting the vocative.

The absence of the text, again, renders it inadvisable to insist upon an obstinate translation of important key terms into an approximate English equivalent. Many errors in interpretation arise from the use of mere translations in which terms are used which carry a body of meaning wholly foreign to the author. Even the term *Substantia* might better be left untranslated to indicate that it has a special technical significance in the Spinozistic philosophy. Even more is this the case with words like *affectio*, which is commonly, and perhaps conveniently, but very inaccurately translated "state". Mr. Wolf thinks that it would have been "risky" to use "affection"

(p. 10), but so essential is the conception to Spinoza that it would certainly have been better to do this, though better still to have left it untranslated or to have inserted it in brackets after any suggested equivalent. The *affectiones* of Substance constitute the content of *natura naturata*, they are the characters "affected" by Substance, and therefore its "expressions" rather than its states. The constantly recurring term *ens rationis*, again, is only awkwardly translatable; and an ambiguity might have been avoided on p. 104 if *per se* had remained in the Latin. An obvious instance also is the pair of terms *objectivè* and *formaliter*; it is very misleading to render the former "subjectively" (p. 212), and the latter "essentially" (p. 79). Mr. Wolf has recognised this special type of difficulty in the case of *accidens*, and he refrains from translating *ideatum* (and from italicising it), and it is the more surprising, therefore, that he did not leave *natura naturans* and *natura naturata* untouched. One more instance of this must suffice: the phrases *in se* and *in alio* have too technical a significance to be translated in the obvious simple way. An example is found on p. 75 where we are told that motion "is conceived as in something else"; but Spinoza does not mean what that rendering primarily suggests, *viz.*, that motion is *in or through* space, but that motion only has meaning through some relation to extension. If *in alio* had been left, that ambiguity would have been avoided. Some of these attempted versions of technical terms might have passed if the original text had accompanied the translation, but in its absence, and with the annotations banished to the end of the volume, without even an indication in the text where such notes exist, it would have been much better to sacrifice monoglossal purity.

Apart from matters such as these it may be generally agreed that Mr. Wolf's work is tolerably satisfactory, erring chiefly in the safer direction of inelegant literalism. Happily, his tendency towards a heterodox interpretation of the philosophy of Spinoza has led to no very obvious instance of oblique or even expository translation, and his most noteworthy faults are an undistinguished English style and a proneness to infelicitous expressions. The following examples may be noted: p. 75, "from the height of this humanity you have been willing to lower yourself . . ." where *humanitas* might have been better rendered, and "stoop" is an improvement on "lower yourself". P. 103, *nobis notissima* does not mean "very well known" but "most known to us". Mr. Wolf has taken the term *lucubratiuncula* very literally on p. 105 as meaning "night-work", and adds a note that this agrees with the report of Kortholt that Spinoza did his philosophical work mainly between the hours of ten and three o'clock a.m. This does not sound convincing, and the term may here be simply depreciatory, in which case "trifling lucubrations" would meet the translator's needs. The passage which follows also requires adjustment: Spinoza is not likely to have called Casearius "disagreeable" and within a dozen lines added that he was "fond of him". "Vexatious" is the word required; it is possible to like a vexatious person, but not a disagreeable one. P. 114, for once

Willis's translation of *redhostimenti loco*: "by way of a return" seems better than "instead of a reward". Comment on the following is unnecessary: "On this occasion I am prevented by shortage of time from being able to digress further" (p. 115). P. 116-118, *multiplex* is translated "one of many" instead of "manifold"; but the point *here* is not that there is only one substance, but that there is only one of a given nature. P. 123, l. 13, "for permission" fits the following sentence better than "to allow them". P. 123, l. 16, *me præsenti* = "under my supervision", not "in my presence". The slavish translation of *potestas* by "power" on p. 146 without regard to style is characteristic: l. 17 requires "control", l. 21 will take "not dependent on us", while for l. 29 "command" is more suitable. P. 223, ll. 14, 28, for "under the negation of existence" read "as not existing". P. 263, ll. 26, 30, for "space" read "area"; but at p. 301, l. 10 for "space" read "path" or "track". P. 303, l. 14, "to let me know" (not "to be willing to tell me"). P. 309, l. 16, for "Now my arguments are in this plight. Although I gather from them . . ." read "I argue as follows: the world, I gather, is certainly one . . .". P. 309, ll. 19, 20, 24, p. 310, l. 13, for "modes" read "manners" or "ways"; why "mode" should be used here where confusion is likely, and not where it would be harmless (*e.g.*, p. 338, l. 5) is a mystery.

In addition to this short selection of examples of a too strict literalism, the following may be cited as instances of the opposite fault, or failure to keep close enough to the literal meaning: p. 102 repeatedly renders *passio* by "phenomenon", while p. 103 uses "relation"; "attribute" would meet the case in each. P. 107, l. 4, a definition which is "not conceivable" could not even be called bad; what Spinoza says is "not conceived", *i.e.*, not thought out. P. 145, "I humbly beg you to be pleased with my difficulties" would be less humorous if literally rendered "not to be displeased". P. 180, l. 35, "must have made manifest . . .", and remove the second bracket to the end of the next clause. P. 295, l. 16, for "adapted to many ends" read "conformable to many things". P. 365, l. 11, for "defined by" read "explained through".

It may be convenient to add here some further infelicities of expression which might be considered in the event of a second edition being required: p. 87, l. 3, *guttula* should here be rendered "speck" or "particle", rather than "drop". P. 105, l. 23, for "disagreeable" read "irksome". P. 115, l. 30, for "and to begin" read "and to give you a first proof of this". P. 119, l. 24, for "indefinitely" read "infinitely" or "unendingly". P. 124, l. 2, "risk of *legal* trouble". Pp. 150-151, *probus* and *improbus* are not rightly rendered into modern English as "pious" and "impious" respectively, which have a too definitely religious aroma. *Impius* it is true, which is only once used in this passage, might be taken in this sense, though even it is here better rendered by the term "wicked". "Good" and "bad" are evidently the proper equivalents. "Ungodly" will not do at all. P. 175, l. 15, for "desire for pleasure" read "libidinous appetites". P. 176, l. 10,

p. 177, l. 6, italicise *Descartes's* (and spell thus *passim*). P. 211, l. 23, for "I have only spoken of whole and part" read "So much for whole and part". P. 218, l. 23, for "presuppositions" read "premises", elsewhere for "supposition" read "postulate". P. 223, l. 29, for "supposition" read "hypothesis". P. 224, l. 3. for "presupposed" read "postulated". P. 227, l. 6, for "long ago" read "not long since". P. 294, l. 8, for "Descartes' and my opinion" read "Descartes's opinion and my own". P. 295, ll. 10, 13, for "impact" read "push" or "impulsion". P. 304, l. 23, "if I did not know that it leaves you free for serious studies for the common good of your friends, such as it would be culpable . . .". P. 305, ll. 12-13, though Mr. Wolf is not here following the text of the *Opera Posthuma* perhaps "extent" would be a better term than "amplitude". P. 305, l. 16, for "attributes" read "Attribute". P. 365, l. 12, "But perhaps some day, if my life suffices, I may discuss these matters with you more clearly. For hitherto I have been able to put none of them into order". P. 365, ll. 18-20, delete "in the case" thrice.

The following are more definite errors: p. 179, l. 36, for "do better" read "take upon himself" or "be sure of doing" (*præstare*). P. 298, l. 30, "the particles of any body which nevertheless are extremely varied and distinct from the figures of the parts which constitute the reality of another body" (clause omitted). An extraordinary blunder defaces pp. 300-301 where the unmeaning "right angles" is substituted for the obvious "rectangles": "based on the infinite equal rectangles constructed with the segments of two lines" (p. 300, l. 6), "contains infinite rectangles" (p. 301, l. 6). P. 341, ll. 16, 24, for "the original letter" read "his copy of the text".

The shortcomings of Mr. Wolf's English style have more than once been the subject of remark: these are very noticeable in the formal letters which passed between Spinoza and Fabritius with reference to the Chair of Philosophy at Heidelberg. Here a certain dignity of diction is required, with due attention to the demands of good form. The title of the Elector, "His Most Serene Highness", should have been used; "inquire" is better than "ask you" (p. 265, l. 23). "You would receive the customary annual stipend of an Ordinary Professor" (l. 25). L. 27, for "distinguished geniuses" read "men of distinguished ability". P. 266, l. 13, "Hail to you"! P. 266, l. 25, "take on a Professorship"! P. 266, l. 30, for "is pleased to offer" read "deigns to grant", etc.

The third section of the volume consists mainly of *Annotations* upon the text, and with these we must deal as briefly as possible. They certainly provide a good deal of incidental information on points of fact and reference, though unfortunately they also provide additional opportunities for the expression of hasty and partisan judgments, as well as for some slipshod statements. No more than a few examples and comments can be offered: in the note to p. 108, l. 3, we read that Thought is "the whole system of ideas", that it is "a live system of ideas", statements which, happily, are precisely

contradicted in the next note. The assertion that the Attributes are "organically interconnected" (note to p. 108, l. 21) has already been objected to, and it is necessary to emphasise that the application of the notion of an "organic unity" either to the relation of the infinite Attributes to Substance, or, even more certainly if that is possible, to the relation of the modes to the Attributes (and therefore to Substance) is pernicious in a high degree, and that the most serious objection is to be raised to the statements in that sense in the note to p. 305, l. 10. This sort of inaccurate popular statement should have found no place in a volume that claims to have elucidated all that needs elucidation in the *Correspondence*. Even the phrase "the universe or Substance" is out of place in a serious volume, and we may add to this the unqualified assertion of the note to p. 343, l. 17, that "'Nature' for Spinoza is identical with God or Substance".

Mr. Wolf deals very severely with van Blyenbergh in the note to p. 186, l. 25; but was not his error a very natural one? Spinoza had said that he avoided crimes because they were repugnant to his *special nature* (*mea singulare natura*) (p. 178, l. 36) which certainly suggests mere subjective aversion. It is true that the following clause indicates *to us* that that was not his meaning, but we are more favourably placed than was Blyenbergh, and in any case his interpretation was not more inconsequent than is customary in philosophical debate. Willem van Blyenbergh was certainly not the fool that Mr. Wolf suggests on p. 410. The statement in the note to p. 278, l. 35, that "for Spinoza the percipient subject is as much a part of the objective order of nature as any other part thereof" requires some adjustment. Mr. Wolf's comments on the assertions of Spinoza about conjecture as the basis of practical life in Letters XXI and LVI suggest that he has missed their point. The note to p. 179, l. 24, tells the reader that "Spinoza attaches great importance to the fact that human volition is not kept within the bounds of human understanding. Man's attitude to life and reality is not one of intellectual insight only, but also of adventure, of faith and hope", as if this were a further perfection of human nature, instead of the very sign of its finitude and bondage to the imagination. The same suggestion is conveyed in the note to p. 288, l. 23. Now *Eth. II. xlix. Cor. et Sch.* explain Spinoza's considered views on this matter very completely: "The will and the intellect are one and the same"; "I grant that the will extends itself more widely than the intellect, if by the intellect we understand only clear and distinct ideas; but I deny that the will extends itself more widely than the perceptions . . .". The truth about Mr. Wolf's "adventure" and "faith", therefore, is simply that nature goes on, within and beyond the percipient, whether he clearly understands the process or does not. But to think of his confusedness and fragmentariness as a perfection implying freedom to develop, and a better way of knowing, is thoroughly unspinozistic.

The notes on Letters LXIII-LXVI are not very satisfactory. Von Tschirnhaus saw quite clearly that Thought and Extension are

essentially related, and on the supposition that this is true of all the Attributes he asks why man cannot know more than two of them (as Spinoza definitely asserts). If a third Attribute, X, is related to both Thought and Extension as these are related to one another, why do not men know not only their bodies and their minds but also their x's? When Mr. Wolf comes to consider this question in the note to p. 306, l. 31, he attempts to avoid the difficulty by objecting that it is "based on an irrelevant spatial metaphor or analogy". But he does not comment on Spinoza's own very pointed assertions in Letter LXVI, which neither make nor imply any such objection. The notes, therefore, give no help to the solution of the difficulty about the seemingly privileged position of Thought among the Attributes. Mr. Wolf seems even to have forgotten Spinoza's celebrated statement about the celestial Dog and the animal that barks.

Finally, the note to p. 308, l. 21 which deals with the infinite Attributes of Substance fails to be specially instructive because the writer does not see that it is not so much that Spinoza is "not thinking numerically," as that having necessarily begun by thinking numerically (since man is confined to *two* Attributes) he recognises that a numerical estimate is unsuitable, because definite number implies an external cause. With Substance, also, the same problem arises, but since experience has not launched him upon a process of counting, it is possible to remain content with the assertion that God is not *one* but *unique*. With the Attributes, however, the counting process having begun, the only way to escape it is by proceeding to infinity. Thus both Substance and the Attributes are non-numerable, though the former is *unica Substantia* and the latter are *infinita Attributa*, a situation which provides the solution of some other difficulties to which reference has been made.

Mention must be made of a curious passage which occurs in the Preface (p. 10) in which Mr. Wolf takes credit to himself for retaining Boyle's term "icicles" instead of introducing "the modern chemist's 'dirt'" as an English rendering of *stiriolae*. "This kind of thing" he tells us, "could only be done sparingly"! We need not consider whether "the modern chemist" has any more knowledge of "dirt" as a chemical reagent than "the modern botanist" has of "weeds" as a species of plant, since in any case *quisquiliae* (or even *fæces*) and *stiriolae* can hardly be taken as equivalent. The only possible alternatives to "icicles" would appear to be "crystals", "efflorescences", or even more doubtfully, "sublimates".

It is to be hoped that when a second edition is called for, Mr. Wolf will take the opportunity of modifying some of the less accurate expressions of the Introduction and Annotations, as well as of excluding the commonplace journalese of phrases such as "blatant jingo", "Pharisees, ancient or modern", looking at a problem "like a policeman", "pearls" (p. 422), and so forth. The theatre of philosophy should have no gallery.

The volume in itself is a pleasant one to handle, and is well-produced. Moreover the typographical proof-reading has been excellent.

There are several illustrations of a suitable character: in addition to the diagrams that belong to the text, there is a frontispiece portrait of Spinoza reproduced as well as could be expected from the Woodburytype reproduction, in the first edition of Martineau's *Study of Spinoza*, of the Wolfenbüttel portrait. There is also a full-page reproduction of the Royal Society's portrait of Henry Oldenburg, as well as some small prints of Fabritius, Boyle, Hudde, and Leibniz. The dustwrapper has an interesting cut of the Spinoza statue at the Hague. *Epistola XV* is reproduced in facsimile; and finally, a good index is provided, as well as useful keys to the various numberings of the letters.

H. F. HALLETT.

Whither Mankind, A Panorama of Modern Civilization. Edited by CHARLES A. BEARD. Longmans, Green & Co., New York, London, Toronto. Pp. vii, 408.

THE aim of this volume is correctly described and made quite plain by the Editor in his brief Preface. It is "a challenge" starting from the underlying "assumption that science and the machine are two invincible facts with which all must reckon who write, teach, preach, lead, or practise the arts in our time". It holds that "those who refuse to face them are condemned in advance to sterility and defeat". While "recognising the evils brought by these modern engines," it "rejects the pessimistic views of writers like Chesterton, Belloc and Spengler." The Editor further explains that in view of the distinction of his team he has left every contributor an entirely free hand and made no attempt to smooth out conflicts between their several views. He himself contributes an Introduction and an Epilogue in which he points out (1) that "science and the machine have changed the face of the earth," and that not even the most reactionary institutions (such as the Roman Church and 'pure idealism') can remain unmoved; (2) that "the spirit of intelligent control" is by no means to be regarded as materialistic, while "the mumblers of mystic formulas" who acquiesce in and contemplate "starvation, misery, and darkness, called fate" are the fundamental materialists (p. 405).

Thus the spirit of the book is typically American, as is the bulk of its personnel. The distribution of subjects is as follows: The Civilisation of the East and the West, *Hu Shih*; Ancient and Mediaeval Civilisations, *Hendrik Willem van Loon*; Science, *Bertrand Russell*; Business, *Julius Klein*; Labour, *Sidney and Beatrice Webb*; Law and Government, *Howard Lee McBain*; War and Peace, *Emil Ludwig*; Health, *C. E. A. Winslow*; The Family, *Havelock Ellis*; Race and Civilisation, *George A. Dorsey*; Religion, *James Harvey Robinson*; The Arts, *Lewis Mumford*; Philosophy, *John Dewey*; Play, *Stuart Chase*; Education, *Everett Dean Martin*; Literature, *Carl Van Doren*.

Aside from the spirit and general significance of this very com-

prehensive survey, the essays on Science and Philosophy will be found to be of special interest for readers of MIND. Both are excellent, and Mr. Russell's is also surprising. For it reveals a further sensational development of what is assuredly the most brilliant and active mind in the philosophic world, a development, moreover, which is likely to take away what little breath remains in his panting followers who have long found it hard to keep up with him. The imagination shrinks from the contemplation of their distress when they now realise that their leader has finally and completely converted himself to Pragmatism!

The Essay is admirably composed in Russell's best style, and will repay careful study. It begins with a brilliant sketch of the history of Western science, which brings out the aristocratic prejudice of Plato, who would have thought "the methods of the modern laboratory beneath the dignity of a gentleman" (p. 64), the deadliness of Hume to the causal assumption of inductive reasoning from facts, and the growing realisation by modern science that "most so-called scientific laws are human conventions" (p. 65), and so arrives at the conclusion that scepticism must paralyse science, "if men remain in the contemplative and intellectualistic mood" (*ibid.*).

But, he goes on, "science is becoming increasingly a manner of life, a way of behaving, and is developing a philosophy which substitutes for the old conception of knowledge the new conception of successful behaviour. The more scepticism seems to result from a purely theoretic attitude, the more the practical pragmatic attitude triumphs. This is likely to become true throughout the world, but for the moment it is of course more true in a country like America where the practical success of science is very evident, than in post-war Germany, where pessimism and disillusion fit in with the prevailing tenor of the national life. It is therefore not surprising that America is leading the way in the transition from science as knowledge to science as a set of practical habits. On this ground, whoever is interested in the future should especially study America. To my mind the best work that has been done anywhere in philosophy and psychology during the present century has been done in America" (pp. 65-66).

The reason for this success of America is that it has shaken off the false ideal of contemplation. "European universities were originally places for the training of monks; and monks, though they tilled the soil, existed primarily for the sake of the contemplative life. A modern European professor does not till the soil, but he continues to believe in contemplation. In him this belief takes the form of admiration for pure learning regardless of its practical applications. I am myself sufficiently mediaeval to feel this admiration far more strongly than it is felt by the typical modern man. Nevertheless, I perceive that it is psychologically connected with an attitude of reverence towards the universe which is hardly compatible with the modern belief in man's omnipotence through the machine. We do not contemplate a flea, we catch it" (p. 66). This new outlook,

"mainly a result of the work of James and Dewey," is "embodied in the so-called instrumental theory of knowledge" and "constitutes the philosophy appropriate to industrialism, which is science in the sphere of practice" (pp. 66-67). It was foreign to antiquity, as may be seen by comparing Plato's utopias with any of H. G. Wells's. Plato never thought of "greater dominion over nature as an ingredient in the good life" (p. 68).

The desire for this dominion then is definitely *new*. But as yet "while we alter the environment to suit ourselves we do not much alter ourselves to suit each other" (p. 71). However, "it is highly probable that in a hundred years we shall have acquired the same control over the characters of children that we now have over physical forces" (p. 72). The means will be eugenics, to which Russell now commits himself as definitely as to Pragmatism. His reason for this conversion is the differential birthrate which at present, and presumably for the next hundred years, brings it about that "each generation will be congenitally stupider than its predecessor." This decay of intelligence threatens us with ruin: "we must either have more science, and in particular biological science, or gradually become incapable of wielding the science we already have," till "the skyscrapers become as strange as Maya ruins in Yucatan" (p. 81). However, the political obstacles in the way of breeding more intelligence are recognised to be very formidable. "In America and Great Britain the fetish of democracy stands in the way; in Russia, the Marxian disbelief in biology. In France the economic system that has grown up around the Code Napoléon makes any eugenic reform impossible" (p. 80).

On p. 72 Russell gives an excellent sketch of the Instrumental Theory of Knowledge which "inspired by industrialism" is "sweeping away the static conception of knowledge which dominated both mediæval and modern philosophy. It defines knowledge thus: *to know something is to be able to change it as we wish.* There is no place in this outlook for the beatific vision, nor for any notion of final excellence." So the 'pure' theorists become "strayed ghosts from an earlier epoch".

This leads on to a delightfully witty passage describing how the ancient sages would behave if they were suddenly dumped into modern civilisation. Inspired by "a passion for psychological truth" Russell declares that "Aristotle would divide his time between Oxford Common Rooms and the Zoo," Plato would adopt Dean Inge's views *in toto*, Bacon would have to be dismissed from the editing of the *Encyclopædia Britannica*, and so forth.

In spite of a singularly candid perception of the defects of modern life, and twinges of doubt even about the Instrumental Theory (which he fears, p. 80, may not "afford a sufficient incentive to the precarious labour of serious thinking"), Russell in the end looks "to the western nations, and more particularly to America, to establish first that more humane, more stable, and more truly scientific civilisation towards which, as I hope, the world is tending."

Criticism of these developments will hardly be expected from the

present reviewer. They constitute the most remarkable conversion since the case of St. Paul, and a very great reinforcement of a truly rational and scientific philosophy. Perhaps, however, I might venture to confess that my surprise was diminished, and my gratification augmented, by my recognition of Mr. Russell's conversion as a clear fulfilment of prophecy. Something like twenty years ago we indulged in a certain amount of philosophic correspondence, at the end of which I diagnosed our differences as due to our having been repelled from Hegelism in diametrically opposite directions. But, I said, if we both keep straight on as we are going, I cherish a hope that some day we shall meet face to face, because the intellectual universe also is round! Less metaphorically, the explanation would seem to be that whereas originally Russell was a pure mathematician who could not be induced to consider the problem of the *application* of mathematics to reality, and was therefore intellectualistic in his philosophic outlook, when he returned from Oxford to Cambridge he found the problems of Relativity and other applications of mathematics to physics the order of the day, and got interested in them. He then speedily discovered that the rules of abstract logic served only to condemn the scientifically fertile methods, but were impotent to solve physical problems, while in actual scientific investigation he could not but argue pragmatically. His conversion, therefore, though slow, was progressive and inevitable. *Wer immer strebend sich bemüht, den können wir erlösen!*

Dewey's contribution is more concordant with the expectations of his habitual readers. He makes a number of good points, and scathing comments on the attempts of philosophers to stand aloof from life (p. 313), and to discover 'whether knowledge was possible' at the very time, "when science was advancing at an unprecedented rate" (p. 320), on the aping of European thought by American (p. 315), on the apparent contradictions in American life (p. 316), and summarises his argument on p. 327. "Industrial civilisation presents philosophers with a double challenge." They must "discover the full meaning of the experimental methods by which the advances of natural sciences have been made secure." This means a scrapping of "fixed prepossessions regarding the nature of mind, thought, and truth" which date "from a pre-experimental age," and "what is in effect a new logic". Secondly, "the relation between instrumentalities and consequences, means and ends, must be reconsidered on the basis of the new tools and sources of power which come within human control because of applications of science" (p. 328). Only so can the unnatural "separation of ends and means" and with it "the ultimate source of the confusion, insincerity, meaningless change and unrest characteristic of so much of industrial civilisation" be overcome.

I have left myself no space for comment on many notable dicta in other Essays, but Mr. Havelock Ellis on the future of the Family (of which he refuses to despair), Mr. Dorsey on the 'Race' Myth, and Dr. Hu Shih on Oriental 'spirituality,' all provide excellent reading.

F. C. S. SCHILLER.

VI.—NEW BOOKS.

The World as an Organic Whole. By N. O. LOSSKY. Translated from the Russian by NATALIE A. DUDDINGTON. Oxford University Press, 1928. Pp. vi, 199. 10s. net.

In this book, for the English translation of which the author has made additions to and modifications of his original text, Prof. Lossky fortifies the theory of knowledge which he gave us in his *Intuitive Basis of Knowledge* by developing a metaphysical system to account for it. He speaks of the system as based on the theory (p. vi), but though the two imply one another neither is based on the other, and the order belongs to the growth of the author's thought.

The universe, he tells us, is through and through organic. That is, "the whole exists primarily and the elements can exist and come into being only within the unity of the whole" (p. 2). All explanation, therefore, must move from the complex to the simple—*i.e.*, from a higher to a lower grade of being. No bare addition of what are taken as relatively simple and independent units can either produce or give knowledge of a more complex 'whole'; the source (and consequently the explanation) of any entity must be looked for in a heterogeneous principle higher than itself. Thus a line cannot be explained as made up of points, whereas a point can be defined relatively to a line, which is not only its ground but actually 'gives rise' to it (pp. 59-60); again, a musical note unites the two aspects of quality and intensity, but is not their combination as two independent elements. An important instance of interaction which as such demands an organic interpretation is afforded by a push, for that is "the very fact by means of which those who take an inorganic view of the world seek to explain the whole cosmic process" (p. 6). Prof. Lossky's view that all knowledge is (*a*) contemplation and (*b*) analysis and synthesis together, confirms the organic theory of reality, since only a complex whole, with a structure of its own, can be analysed.

The world, then, is a system, both as a whole and in its parts, and in this book Prof. Lossky builds the system as it might be. Do relations belong to it? On an organic view they must. They cannot be reduced to feelings, for then it may still be asked what is the relation of the feeling to the elements whose wholeness it is to explain, and to attribute them to the mind alone is to assume a lifeless inorganic world which cannot satisfy the intelligence and which sets inadmissibly narrow limits to human knowledge. On the other hand, to say that the real demands to be related by us in a certain way is only partially to conceal the existence of relations in the real itself, on which alone such a demand can be based. All relations, including the spatial and temporal relations themselves, are super-spatial and super-temporal (= "ideal"). Thus temporal relations are the non-temporal conditions of time. But in spite of being both real and "ideal," relations cannot be the source of unity in the world, for they are lifeless and cannot be the source of anything; they are no more than the expression of system in the real. The power to apprehend unity in multiplicity gives a clue to the nature of that

which makes unity possible in multiplicity. The knowing self has this power in virtue of its super-temporal and super-spatial character and, unlike relations, it is a substance and the active source of its own manifestations in time. Similarly, therefore, unity in the object can only be accounted for by the activity of a substantial agent transcending the divisions of space and time. This creative activity, on which all interrelated unities must depend, is analogous to the work of spirit. The presence of relations in objects, therefore, implies that "spirituality permeates the whole world, including material nature" (pp. 33-34. Cf. p. 48).

We have, then, a multitude of particular systems subordinated each to a corresponding substantival agent, and to account for the unity of the whole we must assume that each system is partially subordinated to a higher until we reach a world system with the one supreme substance for its basis. Even this cannot be the ultimate source of unity in the world, for the other substances do not owe their existence to it, though they are partially subordinated to it in their activities, as the individual is to the community. There must be a principle which is the source both of the world's plurality and of its original unification, itself not a system because it contains no plurality. "Briefly, wherever there is a system, there must be something beyond system. Only such a Principle is in all respects independent, and it alone can be designated by the term Absolute. A consistent working out of an organic view of the world leads to the recognition of a super-organic principle" (p. 63). The Absolute (or God) has the power of putting something in the place of nothing; it absolutely creates the world, both form and content, and the created has no element in common with its Creator. The world so created is a Kingdom of Harmony (or of the Spirit), consisting of super-temporal substances "each of which lives in its own way in and for God, living also in and for each other in virtue of their unity of purpose. . . . Owing to a complete interpenetration of all by all, the distinction between part and whole disappears; every part is a whole" (p. 81). But the world as we know it is a kingdom of enmity rather than harmony, for it contains not only individualising opposition which increases its richness, but conflicting opposition which involves disruption and hostility and so diminishes it. Accordingly, Prof. Lossky gives a metaphysical version of the Fall. The Absolute is not responsible for this, for in absolutely creating the substances it left them wholly master of their own activities. By breaking away, the substances lose both their harmony with one another and their inner harmony, and the struggle that arises creates matter, or "simultaneous externality of particles that are mutually exclusive" (p. 106). In spite of the defection of some of its members (who still remain possible members) the kingdom of harmony persists unimpaired, for "the power of God makes good every defect." (It is fundamental to Prof. Lossky's Ethics that there must be realised perfection at the basis of the world; without this, progress towards perfection is impossible.)

For a comparatively small book the development of the theme is remarkably thorough and it is helped out by well-chosen illustration. Those who maintain the organic doctrine must be grateful to Prof. Lossky for bringing powerful support to it, even though they may find difficulties about detail. In particular, it is hard to see how a perfect self-contained system which embraces all reality save its Creator could come to lose some of its members, or how, having lost them, it can remain complete and perfect, when each member is described as having a special part assigned to it in the life of the whole (and this in spite of its declared transcendence of the distinction between part and whole). If all its

members defaulted—and if some, why not all?—it could not exist at all. It is even a question whether on his own view Prof. Lossky is justified in speaking of the kingdom of harmony as the creation of the Absolute, since He creates only substances which from the moment of their creation are free to choose their lives for themselves, and no reason is shown why they should choose to live, even at the outset, “in and for God”. It is in such metaphorical language that the life of the spirit has necessarily to be described, but the metaphor conceals rather than explains a difficulty which the author evidently feels, since he speaks of that kingdom as “free from the Absolute to the greatest possible degree” (p. 98), and yet (p. 100) of God as entering into it “so intimately that the connexion between Him and the Kingdom of the Spirit may be said to be similar to that which holds between its members”. The difficulties about the relation between the kingdoms of harmony and enmity would have been simplified if so great a gulf were not taken to exist between them. While admitting that remnants of the higher unity characterising the kingdom of harmony may be discovered in the kingdom of enmity, Prof. Lossky seems to imply (*e.g.*, p. 180) that a substantival agent must choose between Heaven and earth; he cannot by actions partially good and partially bad contribute to the kingdom of harmony without having entirely shaken off the bonds of the kingdom of enmity. This makes the return to the kingdom of harmony as inexplicable as the fall from it.

Nor is the argument from the existence of relations in the world to its source in and permeation by spirit altogether convincing. Because only a mind can so transcend time and space as to grasp unity in the multiplicity of the spatio-temporal series, it does not follow that a substance uniting phases of its own existence which are separate from one another in space and time must necessarily have the character of mind; and it is on this analogy that Prof. Lossky mainly relies.

Prof. Lossky's chief debt in a book which deserves to be called an original contribution to metaphysics is perhaps to Plotinus. It is a pity that he has not been able to refer to the English Hegelians, with whom he has so much in common that a defence of his more striking differences from them would have had special interest. For instance, what is for Bosanquet synonymous with the pursuit of truth and goodness—namely ‘the *nisus* towards the whole’ or (in Lossky's words) ‘the purpose of becoming the Absolute’—is for Lossky “the ultimate source of all the imperfections in the kingdom of enmity” (p. 105). Among many references to and quotations from Russian philosophers at present unknown to the English reader there are some which will whet his appetite for more. If the task of translating any of these is undertaken, no one could be better fitted for it than Mrs. Duddington, whose translation of this book reads like an original work.

There are minor misprints on pp. 12, 88 (?) (for *reconstructing* read *reconstructing?*) and page 169 note (for viii read vii, p. 112), and a more misleading one on page 46, line 23, where S₁ is printed for S₂.

A. K. STOUT.

Acte et Synthèse. Esquisse d'une Critique de la Pensée Pure. By PAUL DECOSTER, Professeur à l'Université de Bruxelles. Bruxelles : Maurice Lamertin, 1928. Pp. 158.

This is M. Decoster's third and best book. He has been steadily moving toward a more and more uncompromising intellectualism, and has at last reached it. From the first he had been free of the notion that thought is relative to a reality beyond thought; and he had already shaken off the

notion that finite thought is conditioned by either an absolute experience, or categories, or any immediate data of consciousness. In his second book, *Le Règne de la Pensée* (1922) he had found himself left with the self as thinker, whose activity was a synthetic adventure in the realisation of intrinsic value.

But he now sees that the self must go too. I think that this is a sound step, taking account of his previous position. It will not really help you in the long run to anchor thought to a self which is individual and finite. For the finite self is so closely mixed up with the content of other selves and with its physical environment that it cannot provide the ultimate basis for philosophical theory.

The result is to bring him back to a way of expressing his problem which is more in the line of the great intellectualistic philosophies. Philosophy is thought. It seeks the unconditioned. It is also autonomous. Thought can accept nothing from any source outside itself. And as it is essentially synthesis, it must be synthesis of a multiplicity which is intrinsic to itself. The basic concept for philosophy, then, is that of pure unconditioned synthesis, whose multiplicity is a moment of the synthesis itself. This is M. Decoster's new starting-point. And just as his *Règne* was a logical development, granting his basis of intrinsic value as relative to a self, so in this book, starting from the conception of unconditioned synthesis, the main lines of the doctrine seem to follow logically.

When, rejecting what M. Decoster calls the "troubled" notions of reality, and of totality, we seek to justify the affirmation of pure unconditioned synthesis, on what are we to base our affirmation? It is clear that we cannot base it on anything outside the synthesis itself. Otherwise instead of an unconditioned synthesis we should have a synthesis conditioned by that on which the affirmation of the synthesis rests. If an unconditioned synthesis is to be affirmed at all, it must affirm itself; and the act in which it does so must be an essential moment in the synthesis.

But this entails what might at first sight appear to be a curious consequence. It entails, namely, that affirmation as such—not merely the affirmation of an unconditioned synthesis—must depend on the unconditioned synthesis. To showing this M. Decoster devotes much of his book. Individual acts of judgment are in the last resort possible only as a moment in an unconditioned synthesis. Judgment rests neither on the *res cogitans* of Descartes nor on the Transcendental Unity of Apperception of Kant. The *cogitatio* of Spinoza minus Spinoza's whole basis of idea and substance expresses it better. Again, judgment is relative neither to Platonic Ideas nor to Kantian Categories nor to Bergsonian *données immédiates*. Individual judgments live only as moments in the one indivisible unconditioned synthesis which, as M. Decoster says, "tolerates only what it requires." "La synthèse pure est donc la norme et la commune mesure de toute expérience authentique. Mieux encore, elle est coextensive à celle-ci qui, par tant, se réduit toute au déploiement de la synthèse actuelle" (p. 39). The development of this in the pages which immediately follow, shows that (as his rejection of the idea of totality would make one expect) his doctrine rejects the coherence theory of truth. "Authentic experience" cannot depend for its authenticity on its being taken up ultimately into a completely coherent system. Either an unconditioned synthesis affirms itself in every genuine affirmation, or there is no genuine synthesis at all.

But this consequence seems to me to involve two further results.

Firstly, having said this, philosophy seems to have nothing further to say. As the philosophy of Parmenides exhausts itself in stopping all

the ways of escape from the statement *It is*, and once it has reached *It is* can add nothing, so this philosophy of pure or concrete synthesis seems to me to be compelled to confine itself to stopping the ways of escape, and once the pure synthesis is reached, to have nothing further to add.

But secondly, just as the philosophy of Parmenides makes it difficult to see how there can be any ways of escape to stop, so with this philosophy. How can any judgment escape affirming the concrete synthesis? How can it fail to be a moment in the synthesis? Judgment is autonomous: "il n'est . . . au jugement d'autre fondement que le jugement lui-même. C'est en ce sens qu'il est permis de dire que tout acte de pensée vaut à titre de manifestation originale de la synthèse. En d'autres termes, la synthèse originale, ou d'un mot, l'origine, est immanente à tout acte de pensée, et glisse, pour ainsi dire, de l'acte à l'acte, étant tout à la fois partout et nulle part. A quoi l'on doit ajouter aussitôt que l'acte où elle s'incarne ne l'exprime valablement que s'il abdique toute prétention de la fixer à jamais" (pp. 73-74). Where then can error arise? He suggests on page 76 that it is possible for an abstract separation to be made between the synthetic unity and the intellectual operation by which the synthesis is affirmed. And this gives rise (pp. 101, 103 f.) to imperfect or to pseudo-problems. ". . . l'ordre synthétique est rigoureusement indivis. Il ne tolère, en thèse générale, que ce qu'il requiert. C'est en quoi précisément il échappe au droit commun. Il semble, dès lors, que toute question subalterne s'efface devant le problème parfait: parfaitement déterminée, elle fait corps avec celui-ci, dont elle ne se distingue que momentanément; imparfaite, elle suppose l'intervention de quelque donnée adventice dont l'ordre synthétique ne s'accorde point" (p. 103). The discussion of such "imperfect problems" occupies the second chapter of Book II: those he treats are, the problem of time, and that of a plurality of selves. This chapter constitutes the *Dialectic* of this *Critique de la Pensée Pure*; but rich as it is in its critical insight, I find it difficult to see how his theory can permit it to exist at all. In Section 4 of the chapter (p. 140 f.) he admits the difficulty. "Puisque l'ordre synthétique est indivis, la position d'une question imparfaitement déterminée ne saurait être le fait d'une démarche directe de la pensée" (p. 141). Yet philosophy has put itself and continues to put itself pseudo-problems. The question why this is so is a genuine problem, but a problem "imperfectly determined". It admits only a conjectural answer (p. 142). But I am not convinced by his account. How can any judgment exist outside the original synthesis? If judgments are moments in the synthesis, which "tolerates only what it requires," how could they express or give rise to imperfectly determined or to pseudo-problems? At what point, or whence, could any "donnée adventice" enter into the business?

Though relatively short, M. Decoster's book is full of interesting discussions. He works out his positions with continual reference to the history of philosophical thought, and so provides a rich mine of critical comment on Descartes, Spinoza, Kant, Fichte, Hegel, Bergson, and modern Realism. His own position is the logical limit of intellectualism, as the position of Parmenides is of the philosophy of Being. I think it is of equal importance. I do not see how it can possibly be true, and I do not see how any account which admits the autonomy of thought can possibly escape it. The book is not one to grasp on a first reading: but it is well worth any pains that any reader is willing to be at to understand it.

LEONARD RUSSELL.

Opera hactenus inedita Rogeri Baconi. Fasc. VIII. *Questiones supra libros quatuor Physicorum Aristotelis.* Nunc primum edidit FERDINAND M. DELORME, O.F.M. Collaborante ROBERT STEELE. Oxonii e Typographeo Clarendoniano. MCMXXVIII. Pp. xxii, 284. 25s.

Opera hactenus inedita Rogeri Baconi. Fasc. IX. *De retardatione accidentium senectutis cum aliis opusculis de rebus medicinalibus.* Nunc primum ediderunt A. E. LITTLE, E. WITTINGTON. Oxonii e Typographo Clarendoniano. MCMXXVIII. Pp. xliv, 224. 22s. 6d.

The Opus Majus of Roger Bacon. A translation by ROBERT BELLE BURKE. Philadelphia, University of Pennsylvania Press. London: Humphrey Milford. MCMXXVIII. 2 vols. Pp. xiii, 840. 42s.

MIND is neither a journal of mediæval studies, nor a review of palæogeography. Hence only a brief notice of these welcome and interesting volumes is possible in this place. Fasc. VIII of the Oxford text of the *opera inedita* follows up the questions on Aristotle's *Metaphysics* by a similar set of "questions" on *Physics A-D* from the famous Amiens MS. 406. Apparently these *questiones* represent Bacon's teaching as a young Master in the University of Paris between 1246 and 1256. The method of the lecturer is strictly the propounding and resolving of strings of *questiones* as distinguished from that of elucidation by means of compact "glosses" usually adopted by St. Thomas, or by very full and copious commentary in the style of Albert the Great. What value the newly-published work has as throwing light on the growth of Bacon's own thought must be left for experts to determine. To a non-expert like myself careful reading conveys the impression that in these discussions Bacon either as yet has no characteristic doctrines of his own, or does not mean to disclose them. He is content to propound *ἀποτίαται* suggested by the words of his Latin version of Aristotle and to solve them by showing that we may take advantage of the ambiguities of the letter to evade proposed difficulties. Many of the *ἀποτίαται* are extravagantly sophistic and more are only verbal. Only occasionally, especially in the discussion of problems suggested by Aristotle's account of Time, does the writer seem to come to grips with a question which is more than verbal. I note that, to my own eye at any rate, the work exhibits few of the characteristics of the later Roger. There is no suggestion that there are "errors in Aristotle," no complaint of the defects of the Latin versions, no self-conscious censure of rival expositors, and, so far as I can discover, no hint of the characteristic Baconian "illuminism". Nor is there much which betrays interest in *scientia experimentalis*, except in the long and curious, though confused account of the *clepsidra* (p. 199 ff.), where it is amusing to note that the lecturer runs away entirely from the "water-clock," the *κλεψύδρα* meant in the text of Aristotle, to discuss, without, I think, much real insight, the consequences of not making a *clepsidra*, in the sense of a "vent", for the escape of vapours generated by fermentation in a wine-cask. In the main I suspect the interest of these *questiones* is rather that they give a picture of what passed for *physica* in the University of Paris, c. 1250 A.D., than that they tell us much about the thought of Brother Roger.

A few words on the qualities of the editing. It has evidently been done with industry, yet I confess I am not fully satisfied with the results, particularly in a work issued by the University of Oxford. For one thing, I think we ought to know exactly what is being offered us—a reproduction of a MS., or a text *edited* on the basis of a MS. or MSS. If the former, the contractions which are obviously numerous in the Amiens MS. ought either to be copied exactly, or when there is the slightest doubt about their

expansion, we should be told in the *apparatus* that the text is an expansion : if the latter, the manifest errors of the scribe ought to be properly "emended" when the emendation is certain. What we are actually given is neither a transcript nor a critically constructed text, and the *apparatus* is so defective that I have found myself often enough left uncertain whether I am reading a faulty MS. text or a mistaken editorial "correction" of a sound text. With every desire to be appreciative of what Fr. Delorme has given us, I cannot think that a text should appear as "edited" under the auspices of a great University, if each reader has to make numerous corrections for himself, and obvious corrections, before its meaning is intelligible. I have noted between 150 and 200 cases of the kind, but will only mention one or two, as evidence that I am not making a baseless complaint. There are too common confusions of words like *natura* and *materia*, *cum* and *tamen*, and the like, arising from mistaken expansions of contraction (*m* and *n*, *cm* and *tm*). E.g., at p. 5, l. 17 *natura* manifestly should be *materia*, whereas at 54, 25 *materia* should be *natura*; at 126, 36 to make sense *cum* must be *tamen*. Words are often wrongly divided, e.g., 144, 8 where *innobili* should be in *mobili*; 133, 19 *etsi* for *et si*, but 215, 9 *et si* where the sense requires *etsi*. Wrong grammatical terminations occur, presumably from inaccurate expansion, e.g., 71, 29 *naturalia* for *naturalibus*, 79, 16 *motu* for *moto*, 215, 12 *processurus* for *processuris*. A negative is sometimes inserted where there should be none, sometimes omitted—a common error in MSS.—where it is absolutely required. A bad example of a *non* that should be away is 214, 4, and another 183, 8; on the other hand at 30, 4-5 the sense demands the addition of a *non* (probably before *denominatas* in l. 5). A curious example of nonsense produced by wrong expansion is 113, 34, *propter continuationem esse divini* (!). Read, of course, *propter continuationem ESSENDI* (no doubt written by the scribe *eendi*, or *edi*). Sometimes we are given words which are not Latin at all, as e.g., 150, 29 *confortius* which seems to be a misreading of *coartiatius*. A singular example of the perversion of a sentence into nonsense by the misreading of a single letter is 14, 31, where it is said that if one imagines an equilateral triangle described on a diameter of the universe *oportet lineas intellectae circulus* (!) (*esse*) *ultra circumferentiam*. I do not know what Fr. Delorme took this to mean; actually it has no sense. Comparison with 162, 4, where the same illustration is used shows that Bacon wrote *circulos*, with the meaning "the circles of the line in question"—i.e., those you would have to describe if you made the construction of Euclid I. 1 with the diameter of the universe as your *AB*—would fall outside the circumference <of the universe>". These are only a few samples taken very much at random; there are plenty more of the same kind "where they came from". I sincerely desire not to be censorious, but this is surely no way to "edit" a text.

Of the quaint set of medical *opuscula* brought together by Mr. Little and Mr. Withington in Fasc. IX. I am competent to say nothing, except that they will entertain the curious, if they can make out all the curious recipes offered for the retardation of age, which is much more than I can do myself, even with all the aid carefully provided by the editors, who, so far as I can judge, have done their work very thoroughly. Two reflections on the subject will probably suggest themselves to the thoughtful reader : that there really is an unpleasant touch of charlatanism in Bacon's hints of wonderful secret knowledge, which never lead to anything but the loosest generalities; and that it is really a pity no one could have whispered "monkey-glands" to him, as an alternative to the "medicine extracted from the mine of the most noble animal" on which he is prudently careful not to explain himself too precisely. (Why he is reticent may perhaps be divined by anyone who has read the poem of the *armer* Heinrich, or the history of Gilles de Rais.)

The University of Pennsylvania and Mr. Burke are very heartily to be congratulated on Mr. Burke's handsome and very readable version of the *Opus Majus* from the text of Bridges, which will be most welcome to students of the history of science whose Latin was not sufficiently cared for in their school days.

A. E. TAYLOR.

A Study in the Philosophy of Personality. By HILDA D. OAKELEY. London: Williams & Norgate, 1928. Pp. 192. 5s. net.

"It will be evident," Miss Oakeley says, "that this study is not intended to be the outline of a systematic philosophy of personality. It examines only certain aspects of our experience in which the need for such a philosophy appears most evident" (p. 174).

These statements are perhaps something too modest. Certainly the author makes no serious attempt to analyse the conception of personality—a reference to Mr. Webb's account of the history of the word "persona" being apparently her most explicit contribution to this part of the subject. Again she attempts but little in the way of criticising other philosophical conceptions than her own. On the other hand she gives repeated and rather ample indications of her general point of view and of the place which she conceives personality to occupy in history, ethics and the cosmic process generally.

The central elements in her conception of personality appear to be creation (chiefly "creative memory"), value, and the uniqueness of persons or the incommunicability between them. The self-originating properties of a person are held to be underivative and primordial. The author seems prepared to accept a good deal of "emergence" in the universe but not the emergence of an ego. In her pages "value" and "meaning" go together in a way not infrequent but perhaps requiring analysis. "The experience must be valuable, must have meaning, or cease to be that type of experience" (p. 97). "The one character which, as our thesis maintains, is universally found in the kind of effect which is essentially human, or the practice of a person, is the strain to overcome some limitation, to transcend some limit. This characteristic is not to be called in itself either good or bad, but it is the source of all the value-giving, value-seeking activities" (p. 87).

The "uniqueness" of persons seems oddly connected with any such striving towards the infinite on the part of finite-infinite persons. If each is in virtue of being unique, it seems hard that each should strain towards what is not in the same sense unique, viz., the Whole. In this respect, however, Miss Oakeley's entire philosophy seems very strange. She rejects Leibniz's windowless monads rather contemptuously, because they are altogether too unique. They do not allow for "that vivid and vital communication between soul and soul" which is "all in all" in concrete affairs (p. 29). Again she appears to think that "as Plato suggests, the good is a spirit which passes from mind to mind" (p. 118). What, then, precisely is this incommunicability?

The recurrent note of the book is man's search for values in history, his thirst for reality in ethics, together with an attempt on the author's part to unite the perspectives of certain contemporary thinkers (e.g., General Smuts, Dr. W. Brown, Dr. Scheler, and Dr. Troeltsch) with the great philosophies of the past. Many of Miss Oakeley's quotations and incidental suggestions have a peculiarly vivid quality.

JOHN LAIRD.

Moral Experience. By HENRY STURT, M.A., Sometime Substitute-Professor of Moral Philosophy in the University of Aberdeen. London : Watts & Co., 1928. Pp. viii, 335. 10s. 6d. net.

It is not easy to give a judicious appreciation of this book. Whilst every author is to a certain extent at the mercy of the reviewer's prejudices, Mr. Sturt runs peculiar risks of being unjustly treated in this respect. There is no sustained argument to sharpen the intellect and stimulate agreement or reasoned opposition. One just agrees with Mr. Sturt or one does not, and that is the end of the matter. If one believes that he is wrong it is difficult to say why he is wrong, because he has given few good reasons to show why he should be considered right.

Comparisons are invidious, but I venture to suggest that the first part of the book is, generally, the best part. The author tries to describe the 'moral system,' or practical outlook, attitude, and types of behaviour alone consistent with the demands of self-governing or democratic society. There is genuine appreciation of the fact that a very high level of mind, deep loyalty to the community as a whole, and interest in the welfare of others as individuals, must be presupposed in those who are to lead a truly democratic life. The ruler must foster and rely upon the members' 'cultured' moral outlook to preserve that stability and unity of the social whole which, in less developed societies, would be maintained by force and external restriction of individual self-determination.

But this fine insistence upon 'self-government' does not preserve Mr. Sturt from acquiescing in some astoundingly arbitrary acts of aggression (pp. 10-11); and, as for the rest of the book, I honestly find it difficult to see how it could advantageously "be used in connection with the moral philosophy classes held at most British universities," as the author hopes it may. Should it displace a book like, say, Green's "*Prolegomena*"? There is much untidy thinking and looseness of expression, and little attempt to work out the 'systematic' parts in a logical manner. Throughout the volume there is a general plea for the importance of the psychologist's contribution to society, but the plea does not gain much support from the specimens of psychological analysis given in the part on "Moral Psychology". E.g., there are suggestions, especially in the chapter on 'Norms and Ideals,' of a curiously naïve theory of 'soul' and 'body'. It is also suggested, in the discussion on the distinction between pleasure and happiness, that "the experience of happiness-unhappiness, like that of pleasure-pain, is dependent upon stimulation of a definite neural tract, which is closely contiguous to the pleasure-pain tract, and is affected by what passes there" (p. 162).

The treatment of historical theories is misleading and not to be commended. There are misstatements of fact, and interpretations inadequately supported. Spinoza is a 'materialist'. "Butler gives the first place among the virtues to self love" (p. 38). The Hedonist, we are told, does not recognise intrinsic value. There is extreme emphasis on the 'mathematical' side of Plato's theory of Ideas, and that philosopher's views are often presented in a novel way. "Plato's general attitude towards art is that of a monk or a philistine" (p. 242), largely because he did not appreciate the importance of women's place in society. "The fact is that art of all sorts is closely connected with appreciation of women" (p. 243). Again, we learn, Plato thought that the state exists for the sake of the rulers (p. 241).

One runs grave risks in presuming to place any philosophical work upon the 'Index Expurgatorius,' especially if it is the fruit of long practical and academic experience ; but we are safe in saying that even those who recognise some theoretical or practical value in it will protest that the

author implicitly claims an importance for the volume under review quite out of proportion to its real merits.

W. D. LAMONT.

Fitness for Work. By T. H. PEAR. University of London Press, 1928.
Pp. 180. 5s.

In this little book Prof. Pear discusses certain aspects of skill and aptitude for work. It is not a book on vocational selection—nor does the author intend it to be—but it provides a useful introduction to that study by a disinterested consideration of some of the factors involved. Many of the problems dealt with lend themselves to experimental investigation but the author avoids discussing experimental results in detail, though he is careful to provide the necessary references. This method of treatment has the advantage of making the book quite understandable to the general reader while at the same time providing the student with facilities for further study. The author's attempts to analyse the concepts of "monotony" and "laziness" are interesting and suggestive, and should do something to prevent the loose application of these terms which is so common. Much harm is caused in industrial politics by the inaccurate use of such terms which are often assumed to be simple whereas they are in fact complex. Traditional terminology in industry has had the effect of masking many of its psychological problems. Prof. Pear has examined part of this terminology and by doing so has brought to light certain psychological aspects of industry which are too often hidden.

E. FARMER.

Problèmes de psychologie et de morale. By E. RIGNANO. Paris : F. Alcan, 1928. Pp. viii, 279.

This book consists of a series of essays on psychological topics. Of these essays, numbers V. to IX. inclusive deal with the *Gestalt* theory in a consecutive fashion and occupy together over 100 pages. Numbers X. to XII. inclusive deal consecutively with the author's moral theory (based on harmony of life) and are in the main psychological. The earlier essays deal with such topics as the relations between psychology and philosophy, or the application of psychology to pedagogy. Another is a short review of outstanding papers contributed to the International Congress of Psychology in 1926.

Speaking generally, we have to say that the author puts his fundamental position clearly and in a pleasant fashion. He believes in the introspective method in psychology, in the necessity for teleological postulates in that science (the inorganic world being in his opinion fundamentally ateleological) and in the moral ideal of "l'harmonie entre tous les êtres qui vivent et palpitent" (and therefore, I suppose, among all carnivorous species). In the main, however, it must also be said that he is rather dogmatic in his expression of these views. Part of the reason for this dogmatism is the fact that he believes himself to have established his fundamental position in one or other of his numerous published works. This circumstance, however, is irritating rather than helpful to the reader of these essays; for at nearly every important point the remark is made that the proof is to be found elsewhere. Again, it is difficult, on the whole, to resist the suspicion that the author is not very fond of arguing closely. His "harmony of life," for example, is said to proclaim the enormous superiority of spiritual goods on no better ground.

than the bald uncritical statement that the latter can never be shared and that the former can always be shared. This ideal is also said, for quite perfunctory reasons, to include the Pauline maxim to the effect that a man should not eat if he does not work.

Nevertheless, the essays are instructive as well as agreeable and the critique of the *Gestalt* theory seems clearly to show that the term *Gestalt* is used not univocally but in many senses of "form"; and that the *Gestalt* theorists frequently neglect to distinguish between "forms" and "wholes".

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VII.—PHILOSOPHICAL PERIODICALS.

JOURNAL OF PHILOSOPHY. xxv. 23. **J. B. Kent.** ‘The Statics of the Data of Experience.’ [A criticism of Prof. Drake’s theory which attempts “to account for the perception of objects by establishing a continuity of existence in space between the perceived objects and real existence in the external spatial order.”] xxv. 24. **C. M. Perry.** ‘Purpose in the Doctrine of Contradiction.’ [A well-written paper which argues that ‘contradiction,’ or rather ‘Herakleitean conflict’, is ultimate, that completely mechanical ‘things’ and a complete ‘ground’ are both ‘limiting cases,’ and that “mechanism and purpose flow with equal necessity from our doctrine of terms and relations”.] xxv. 24. **H. Haasheer.** ‘A Theory of Perception.’ [Agrees “with both Bergson and Whitehead when they contend that self-consciousness is discontinuous and intermittent, but deviates from the former by maintaining that the careless identification of consciousness with biological processes is responsible for the grand confusion of concepts in modern biology and psychology: from the latter, that consciousness is not a belated excrecence of biological and physical antecedents”. It is patently ‘independent’.] **H. H. Dubs.** ‘On the Relation of Appearances to Real Things.’ [Suggests that a new relation might be reached if instead of allowing Berkeley’s premiss that “the *esse* of a thing can *only* be established by its *percipi*,” it might be *inferred* from it. Only there seems to be no logical method which allows us to infer reality from experience. If only philosophers would accept the procedure of the sciences as the solution of “the unsolved problem of induction”!] xxv. 25. **I. Edman.** ‘Religion and the Philosophical Imagination.’ [When we abandon the literality of intellectualistic interpretation we see that in a sense religion, philosophy, and science are all creations of the imagination, works of art, pieces of poetry. True, they have different functions and aims. The “technique called reason” arose “as a practical servile instrument of a perplexed animal”; science is “a dream whose categories are determined by practical reference and mundane utility”. Thus “science is a way of control” while “philosophy is a way of life” and “religion is a way of escape and a way of salvation”. Salvation, however, is not merely personal but also social; so the poetry of religion demands communal ritual and grows into a church. Hence religion in some form will persist, so long as “a meaning is read into experience, and that meaning is found good”.] **F. J. E. Woodbridge.** ‘Substance.’ [Substance, taken by Santayana in the Democratean sense, as atoms and the void, “is not the last word, even if, without it, nothing can be nor be conceived.”] **L. Stein.** ‘Concrete and General in Art Criticism.’ [A vigorous and refreshing protest against the “public method” of discussing aesthetic problems by quoting ‘authorities’ and trying to reconcile their dicta, illustrated in Miss M. S. Harris’ paper in xxv. 18. It is vain “to talk abstractly and generally” about art.] Contains also a Note by Mrs. Ladd-Franklin on some formal logic puzzles that have troubled her class.

PROCEEDINGS OF THE ARISTOTELIAN SOCIETY, 1927-1928. N.S., vol. xxviii. **C. D. Broad.** Presidential Address: 'The Principles of Problematic Induction'. [The address is difficult to follow, as it contains numerous mathematical formulae and, even where it is not mathematical, makes free use of symbols. For the same reasons it can hardly be summarised; even Broad's own summary of conclusions would be of little use to one who had not read the argument. The general idea of the paper is first to ascertain what sort of inductive inferences are possible in artificial cases (such as drawing counters from a bag) where the probabilities can be calculated mathematically, and then to consider how cases in Nature differ from these, and what assumptions are required if inductive inferences of any considerable probability are to be possible in the natural cases. This latter part of the paper is worked out with special reference to J. M. Keynes's treatment of inductive probability. As following up the discussions by Keynes in his book and by Broad himself in *MIND*, the paper is important. Readers who are more familiar with the treatment of induction in the logical text-books would probably like to be shown what bearing all this argumentation about probabilities has on the actual inferences of science and ordinary experience.] **M. Kaye.** 'Religion and Reason.' [The religious person is defined as one who has intuitions about 'the invisible source of the visible world' — 'the heart of things': "in some manner he feels that the heart of things is there, and he desires to pray thereto". How far is this religious attitude capable of rational justification? What conceptions of God and of prayer would justify it? Various alternative possibilities are considered, and the conclusion reached is that "different men are able to adore the principle of reality for different reasons."] **C. E. M. Joad.** 'Emergence to Value.' [The main contention of the paper is represented by the following sentence: "just as life has advanced from a knowledge of matter through the first beginnings of thinking to a full and habitual knowledge of objects of thought, so I would picture its further progress as an advance from the vague and fleeting intimations of goodness and beauty that we at present obtain in ethical and aesthetic experience to a direct and habitual knowledge of objects of value." In order to lead up to this conclusion Joad states his views upon Realism, Vitalism, Pluralism, Emergence, and Value; and, as he himself recognises, this is rather too much ground to be covered in 25 pages.] **H. H. Price.** 'On the So-called Space of Sight.' [Price wishes to draw a radical distinction between 'the manifold given in visual sensation' and physical space, and holds that it is misleading to describe the manifold as 'visual space'. Thus he has to deny that a visible form has parts (it is an indivisible whole without parts), to deny that there is visible motion, and so on. Space properly so-called is an object of non-sensuous apprehension.] **Sir Francis Younghusband.** 'Religious Experience and Philosophy.' [Just as a man may love his country and become aware of the regard which his country shows for him, so he may love the Universe and feel in moments of exaltation that his love is returned. Philosophy is justified in arguing from this religious experience of the best men in their best moments that there is at the heart of things a loving and creative Personality.] **R. B. Braithwaite.** 'Verbal Ambiguity and Philosophical Analysis.' [Braithwaite seeks to show that philosophical analysis may fail to allow sufficiently for verbal ambiguity, and takes for purposes of illustration Moore's well-known argument about the indefinability of good. Some of the subtleties of the paper will hardly appeal to the general reader, but the main suggestion does seem to throw some light on the way in which Moore's argument may often have secured assent. "If I use the word 'good' sometimes as a synonym for P and sometimes as a synonym for Q . . . then I shall probably interpret . . .

'Is P logically equivalent to good?' as having the same meaning as 'Is P logically equivalent to Q?' and admit that the answer [to the question is not] a tautology. For I think we always try to interpret a question as a question that can be asked 'with significance'." **L. J. Russell.** 'The Correspondence between Leibniz and De Volder.' [The correspondence shows Leibniz struggling with the difficulties involved in the attempt to conceive the material world and living things in a way that would harmonise with the principles of the Discourse on Metaphysics of 1686.] **M. C. D'Arcy.** 'Knowledge according to Aquinas.' [Aquinas was interested in metaphysics rather than in theory of knowledge, but modern Thomists have sought to work up the master's scattered statements into a systematic theory. The paper gives an account of 'some of the results of these studies' and a general characterisation of St. Thomas's view of knowledge.] **N. Kemp Smith.** 'The Fruitfulness of the Abstract.' [The paper is in some measure a protest against the depreciation of 'the merely abstract,' but it is admitted that "abstract [concepts], if considered each apart, do not, indeed, yield to contemplation anything more than can be gathered from their first apprehension; so regarded they are barren, not fruitful." Also the abstract and the universal are taken to be the same thing regarded in its negative and positive aspects respectively. On the other hand, it is maintained that the universal or type is invariable, and apparently that it cannot *as such* have specific differences—'equilateral' is a species of 'triangle' but not of 'triangularity'. The identity of an individual thing is a variable identity "in and through its differences," but the identity of a universal is an invariable identity "amidst differences". The fruitfulness of the abstract consists in such functions as these: that "it makes possible apprehension of its counterpart, the uniquely individual," and, again, that it makes possible the theoretical consideration of new modes of combination which are not given in mere passive observation.] **A. S. Ferguson.** 'Opinion and Imitation.' [A careful argument to show that the condemnation of poetry in *Republic*, Bk. x., is to be taken seriously, and that Plato regarded poetry as propagating opinion and the poet as devoid of true standards of judgment. The view maintained by Collingwood in *MIND*, that art for Plato is autonomous and beyond truth and error, is criticised.] **W. Brown.** 'Association, Dissociation and Repression.' [The paper contains remarks on these topics and on Freud's views regarding the last of them, but seems to have no general thesis to put forward.]

ARISTOTELIAN SOCIETY, SUPPLEMENTARY VOLUME VIII, 1928: *Mind, Matter and Purpose*. G. C. Field. Inaugural Address: 'Origin and Development of Plato's Theory of Ideas'. [The Address begins by stating the points in regard to the doctrine of Forms about which there may now be said to be a general agreement, *viz.*, the realistic interpretation of the Forms, and the grounds upon which their existence was asserted. The guiding principle upon which Field would go in interpreting the dialogues is that "Plato's primary aim in his literary activity was to meet the needs of his own time," and, though Plato no doubt wished to do this in the spirit and method of Socrates, he is not to be regarded as tied down to a "detailed historical accuracy". Plato's originality lay partly in the separation of the Forms from the particulars, partly in bringing moral ideals and the objects of scientific thought under a common formula. While the doctrine of Forms underwent some development in Plato's thought, it is not to be regarded as undergoing any radical transformation, and the criticisms in the *Parmenides* are not to be taken too seriously. In view of the problem of change or becoming Plato was led to emphasise the activity of soul as complementary to the Forms, and the doctrine of

Forms itself was developed in the direction of identifying the Forms with numbers.] **A. D. Lindsay** and **J. Laski**. Symposium : 'Bosanquet's Theory of the General Will'. [The papers are interesting enough in themselves, but as a discussion of their subject disappointing. Laski's criticisms are such as one might have expected them to be ; Lindsay's are directed to two points of quite subordinate importance, *viz.*, that Bosanquet "gives no adequate account of the juristic side of the State" and that he does not emphasise sufficiently the democratic ideal of government.] **J. L. Stocks**, **W. G. de Burgh**, and **W. D. Ross**. Symposium : 'Is there a Moral End'. [The question of the Symposium is whether the rightness of a right action is to be explained by reference to an end or good which is furthered by the action. Stocks answers in the negative on the grounds that "any account of action in terms of purpose must be incomplete and defective," and that moral judgments cannot be explained in terms of purpose ; nor can we reconcile purpose and morality by means of a doctrine of self-realisation ; action has a purposive aspect, but this must be subordinated to the demand which morality makes upon the act. The nature of this demand, however, is left rather vague, and we are told that the moral judgment is immediate, intuitive, and cannot be argued. De Burgh wants to defend the notion of moral purpose by identifying the moral end with action which is willed for its own sake, and claims to be taking his stand on the Kantian analysis of moral experience. By taking this line he seems to be confusing the issue rather than clearing it up, although he has useful remarks on the ambiguities of 'purpose' and 'means and end'. Ross starts out by recognising two classes of right actions—actions, such as that of keeping a promise, which are right in themselves, because of the *past* promise, and actions, such as that of sending a subscription to a hospital, which have an end in view, in this case the *future* diminution of pain, and which would seem to be right as means to an end. He would then reduce the second class to the first by arguing that the right act is not the mere sending of the subscription, which is of course a means, but the securing of the diminution of pain, which is right "just because it is that, and not as a means to a further end". Yet surely the rightness of the act in the second case is determined by reference to consequences in a way in which it is not in the first case.] **L. J. Russell**, **Miss L. S. Stebbing**, and **A. E. Heath**. Symposium : 'Materialism in the light of Modern Scientific Thought'. [Russell first shows briefly how the traditional materialism depends on the distinctions between matter, space, and time, and then how recent science tends to break down these rigid distinctions and merge "geometry, chronometry, and theoretical physics . . . into one science". The result of the change of view is summed up in the statement that "stuff-substance, that which moves in space and retains spatial properties unchanged in its motion, does not exist". What conception of matter, then, is to take its place ? After outlining the answer to this question, Russell considers in a tentative way the philosophical bearings of the new materialism, and concludes with the question whether the elements with which it operates can really be understood "except as elements in and for a consciousness". Taking this question as her text, Miss Stebbing argues that the inclusion of secondary qualities in Nature (Whitehead) does not involve idealism, and that "the point that is important for the opponent of materialism is the conception of laws rather than the conception of matter". Heath proposes to continue the discussion by tracing "the steps by which the conception of law has come to occupy so much more fundamental a place in modern physics than the conception of substance"; but his paper is not so clear or definite as the two preceding ones. His main points are that the older materialism has been replaced by various forms of 'structuralism,' and that this development

affects science more than philosophy.] **J. Macmurray, R. B. Braithwaite, and C. D. Broad.** Symposium: 'Time and Change'. [In the first part of his paper Macmurray argues that a changeless reality not merely could never give rise to the conception of time, but is in itself an unreal and self-contradictory conception. In the second part he argues that "neither the conception of physical determinism, nor the conception of evolution, can give reality to Change, and therefore to Time". In the third part he asks, "What then must be added to the theory of emergent evolution to transform it in such a way as will yield a conception of real change and of real time?" The answer is, "We need, it is clear, the idea of a rational efficiency in the real for the production of novelty. . . . Such a principle is the principle of practical reason, the conception of Concrete Reason as efficient cause." Apart from the difficulties of this final position, it is a weakness of the paper that statements are frequently made, as if self-evident, by the writer, when they are by no means self-evident to the reader. Both the other symposiasts draw attention to such statements. Braithwaite takes the main issue raised by the first paper to be: "Does the acceptance of change entail the holding of a particular metaphysic?"; and therefore proposes (1) to "state how the elements in our knowledge of time are derived" and (2) to discuss "the alleged difficulties about change" and show that, by adopting a relational view of past, present, and future, "we can accept change" and time "without being forced to any particular philosophical conclusions". He regards his view as being essentially the same as that propounded by Russell (in *The Monist*) and defended by Blake (in *MIND*). Broad, after some unsympathetic criticism of the first paper, considers "the different senses in which different kinds of changeable terms can be said to change," and finally comes to the points of difference between his own view and Braithwaite's. This last part of the paper, however, is very brief, and one would willingly have exchanged the first two parts for a fuller discussion of the questions at issue here, since they are not only the most interesting ones but also stand in need of clearing up.] **G. Dawes Hicks, J. Laird, and A. Dorward.** Symposium: 'The Nature of the Self and of Self-consciousness'. [Dawes Hicks's paper is the most important, but unfortunately it was not before the other two contributors to the discussion at the time of writing. Taking as his starting-point the Kantian theory of knowledge, he argues that the relation of self-consciousness to experience is not that which Kant represents it to be but rather the reverse. Self-consciousness is rather a product of experience than its ground or cause: "instead of experience being the product of the 'self,' the 'self' is rather the product of experience". Arguing on these lines he next asks, "If, now, it be a fact that mental life does not start with being self-conscious, if it gradually attains to self-consciousness, and if self-consciousness passes through numerous phases . . . can the contention be sustained that the 'self' of which we thus become aware is an entity which has all along been there, although in its primitive stages it was unaware of itself and in its earlier subsequent stages only dimly and confusedly aware?" And the answer is, No. Now the objection to all this from a point of view like Ward's is that we are getting an account, not of the self or subject (S), but of the presentation of self (M). It may be wrong to conceive S as a mere "agent behind the scene" exerting energy, but it is certainly wrong, and contrary, one would have thought, to Dawes Hicks's own principles, to identify S with M, or replace the one by the other, as he seems to do. Laird's view, which is set forth clearly but in a somewhat dogmatic fashion, is that the self is a continuum of acts such as perceiving, etc. It is the merit of Dorward's paper that he sees that something of the nature of Ward's S is required for the statement of

psychological facts, but he makes a very questionable departure from Ward by claiming direct acquaintance with S.]

INTERNATIONAL JOURNAL OF ETHICS. xxxviii. No. 1 (Oct., 1927). **Hugh Harris.** *The Greek Origins of the Idea of Cosmopolitanism.* [Suggests that prior to the Alexandrian age four lines of approach, the poetic, the scientific, the philosophical, and the religious, helped the more enlightened Greeks to the idea of cosmopolitanism ; illustrates, *inter alia*, from Homer, Euripides, Solon, Protagoras, Democritus, Orphism, and Plato.] **John Wild.** *The Resurrection of Hedonism.* [Critically examines arguments in favour of hedonism as advanced in "Why not Hedonism? A Protest," I. J. of E., October, 1926, by P. M. Blake ; concludes that no good reasons have been advanced for the acceptance of hedonism.] **Tao Wee Hu.** *The Chinese Version of the Law of Nature.* [Traces common ground in the two schools of Chinese Philosophy headed by Lao-tse and Confucius : that nature (the edict of heaven) is the basis of all things, that in the state people should be left with the right to interpret the law of that nature, and that the means for so doing lies in reason.] **Albert Weinberg.** *Value Interpretation.* [Argues that the psychological study of why values are valued, revealing their complexity, and thereby interpreting them, is of particular significance in the modern age.] **G. S. Slavens and A. P. Brogan.** *Moral Judgments of High-School Students.* [Reports results of statistical investigations on similar lines to those previously reported.] **David F. Swenson.** *A Danish Thinker's Estimate of Journalism.* [Introduces the views of Soren Kierkegaard by translations from entries in his diaries.] **Mabel V. Wilson.** *Auguste Comte's Conception of Humanity.* [Describes and criticises Comte's view of Humanity as a Great Being.]

No. 2 (Jan., 1928). **Ralph M. Blake.** *The Ground of Moral Obligation.* [Maintains that acceptance of the categorical nature of moral imperatives implies the denial of 'autonomy of the will'.] **George Boas.** *Types of Internationalism in Early Nineteenth-Century France.* [Discovers three types : cosmopolitanism, spiritual internationalism, and temporal internationalism.] **Bruno Lasker.** *Contact and Conduct.* [Describes effects of mobility in breaking down moral traditions, resulting in greater freedom of choice, acceptance of conventions in minor affairs to secure freedom for major choices.] **William Orton.** *Democracy or Education?* [Maintains that educational values are in danger of being sacrificed for adaptation to things as they are.] **J. Elliot Ross.** *The Ethics of Prohibition.* **Harvey C. Lehman and Paul A. Witty.** *Ethics and the Press.* [Reports on the frequency with which newspapers are read by children of various ages.] **Edward F. Mettrick.** *Mr. Hooper on Freedom.* [Critically examines his views, maintains that freedom means full satisfaction of the normal man.] **Norman Wilde.** *Machiavelli.* [Discusses Machiavelli's 'Discourses' and 'Prince' ; declares that his contribution was to contrast the necessities of public and private conduct.]

No. 3 (April, 1928). **Olaf Stapledon.** *Ethics and Teleological Activity.* [Defining teleological activity as that which varying in such a manner as to attain an identical result in varying circumstances cannot be fully described in terms of purely physical laws, maintains that what we mean by good is the fulfilment or progressive fulfilling of the activities of teleologically active substances.] **Harold D. Lasswell.** *The Function of the Propagandist.* [Analysing the function of propagandists in modern society declares that they will influence social science through their use of categories other than those furnished by the conflict metaphor.] **Charner M. Perry.** *Habit as an Explanatory Concept in the Social Sciences.*

[Maintains that there are responses which are not simply explainable as habits; e.g., those involving recognition of the logical relation of implication, the discovery of truth, responses determined by relations of betterness, of beauty, etc.] **H. W. Wright.** *Objective Values and Cosmic Intelligence.* [Argues that coherence of meaning, practical adaptability to the continuing life of social intelligence, and aesthetic significance are objective values which imply the community of creative human intelligence and a creative agency which is the Cosmic Intelligence.] **Edward Scribner Ames.** *Religion and Morality.* [Defining morality as criticised enlightened conduct, and religion as usually ceremonialised conduct, maintains that religion is responsive to moral ideals and employs its own means to make them vivid an commanding.] **Herbert Ellsworth Cory.** *Ugliness and Evil.* [Holds that the making of ugliness is one type of evil deed.] **E. T. Mitchell!** *Nietzsche on Ideals.* [Reviews and restates Nietzsche's contributions to the problem of valuation as the task of philosophy.] **Edward Lyttleton.** *The Present Day Problem of Over-work.* [Discusses various ways in which men face the tasks of life without breakdowns.] **Lien Chao Tzu.** *Some New Factors that Affect the Old Values of the Chinese Family.* [Maintains that the old tradition of large families was the outcome of agricultural life, and that with the development of industry the large-family system but not the family values will disappear.]

No. 4 (July, 1928). **Floyd H. Allport.** *Social Psychology and Human Values.* [Shows how a knowledge of social psychology may affect the controls used by men and the degree to which men will submit to them; concludes that the task of the social psychologist is to teach individuals to examine the ends for which they submit themselves to regulation.] **Edward F. Mettrick.** *G. E. Moore and Intrinsic Goodness.* [Critically examining the view that the fundamental principles of ethics must be self-evident, maintains that good is not intrinsic but is our good and is not remote from the background of life which nurtures us.] **C. F. Taeusch.** *Should the Doctor Testify?* [Instances anomalies in American States, maintains that absolute rights of patient and doctor should not be preserved when opposed to the general social good.] **Bolling Somerville.** *Social Progress and the Good Man.* [Pleads that good men should receive in one way or another the good things of the world which should be the reward of virtue.] **L. L. Bernard.** *The Family in Modern Life.* [Presents some of the basic data and principles to be considered if the present processes of family reorganisation and disorganisation are to be understood and perhaps controlled.] **Roy C. Cave.** *A Scientific Ethics and Hedonism.* [Argues in favour of scientific study of existing ethical systems, their origin, character and function.] **Harold N. Lee.** *Morals, Morality and Ethics; Suggested Terminology.* **E. O. Bassett.** *Plato's Theory of Social Progress.* [Collects evidence from the Dialogues supporting the view that for Plato the end of progress is progress.]

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 35^e Année, No. 2. Avril-Juin, 1928. **Ch. Andler.** *Nietzsche et ses dernières études sur l'histoire de la civilisation.* [Analyses the influence on Nietzsche of the theories of Spinoza, Renan, and Gobineau concerning the fundamental motive forces in the history of civilisation. Points out in detail the agreements and disagreements of Nietzsche with these thinkers, and especially the oscillations in his attitude towards Gobineau.] **M. Hauriou.** *Le Pouvoir, l'Ordre, la Liberté et les erreurs des systèmes objectivistes.* [The "objectivist systems" criticised are those of Hans Kelsen (Vienna) and Léon Duguit (Bordeaux). Their theories of the State and of Right (*Recht, Droit*) make opposite mistakes: Kelsen identifies the two too closely—Duguit divorces them too far.]

Both suffer from the common fault of not having attended sufficiently to the "positive inter-relations of Power, Order, and Liberty" in their actual historical development. The theory of "Right" requires all three—the Liberty of the individual will to supply the "matter" of conduct which the Right seeks to regulate; the Power of Government, as an institution accepted by the people, to create the Right; and Order, as a system of institutions limiting Power on the one hand, and providing, on the other, the framework within which Liberty expresses itself.] **T. Bialobrzeski.** *Sur l'axiomatisation de la physique.* [A paper read by the Professor of Physics of the University of Warsaw before the Polish Congress of Philosophy in 1927. The argument, which is very disjointed and repetitious, appears to amount to this: Physics claims to be the most "exact" natural science. But mathematics supplies the model of what an "exact" science should be. Hence, physics, as theory, must strive after "axiomatisation," i.e., after transformation of itself into a deductive system based on definitions and postulates. How this is possible in view of the fact that physics is an empirical science, the author does not explain, beyond asserting that the aim of physics, as a natural science, is to "establish a univocal correspondence between a system of concepts, free from contradiction, and experience". Instead, he goes on to argue that, in the present state of physical science, complete axiomatisation is impossible, not only because of the "antinomy," due to the Second Law of Thermodynamics, between Newtonian mechanics and thermodynamics, but even more because of the conflict between the "phenomenological" method of classical mechanics and thermodynamics (trying to formulate laws for observed phenomena without recourse to hypothetical entities, unverifiable by the senses), and the "hypothetical" method of the atomistic and quantum theories (introducing such unverifiable hypothetical entities). He ends by predicting that axiomatisation will, none the less, be achieved in the future, and that the system will begin with the principles which are "closest to direct experience" and advance to those which introduce hypothetical "supersensible" entities. Such a system, the author cheerfully concludes, will "reunite the two chief methods, deductive and inductive," by which all sciences progress.] **J. Nabert.** *Le progrès de la conscience dans la philosophie occidentale.* [A long and careful review of the contents of M. Léon Brunschvicg's book of that title, published in 1927.] **Questions Pratiques:** XXX, *La gratuité de l'enseignement secondaire.* [An anonymous discussion of the policy of free ("gratuitous," i.e., without payment of fees) secondary education. Points out some of the difficulties of the application of this policy in contemporary France. Logically, making the secondary schools free to all children capable of benefiting by the instruction there offered, ought to imply excluding from them upper-class children of inferior ability, even though their parents are willing and able to pay. As a compromise, the writer suggests that the free schools might be allowed to admit, as fee-paying *élèves-auditeurs*, children who on purely intellectual grounds would have to be excluded from the privilege of a free secondary education.] **Discussion:** **B. Lavergne.** *Réponse à quelques critiques touchant les "Nouveaux aspects de la doctrine coopérative".* [Reply to a critical review of the author's *L'Ordre Coopératif* by M. Gaëtan Pirou in this *Revue*.] Reviews of Books, French and Foreign.—Periodicals.

No. 3. Juillet-Septembre, 1928. **D. Parodi.** *En marge de M. Brunschvicg.* [A short, but vigorous, critical article on M. Brunschvicg's book, *Le Progrès de la Conscience*, reviewed in the preceding issue of the *Revue*. Parodi shows that Brunschvicg's thought contains two irreconcilable strains—one, an idealistic strain linking him with Plato, Descartes, Kant; the other a rationalist or positivist strain derived from Comte. The

latter strain leads Brunschvicg to deny (*a*) that thought can attempt any *a-priori* construction of Reality, for every such construction is sooner or later destroyed by the *choc* of empirical fact; and, therefore, also (*b*) that thought has any intrinsic nature or constitution of its own, analysable into innate ideas, or categories, or whatnot. All such attempts are nothing but "materialisation" of thought trying to seize its own essence. Remains, therefore, nothing for thought to grasp but the ultimate *cogitatur*—the impersonal act of affirmation in its creative spontaneity, its indeterminate liberty. Against this, Parodi urges that such "liberty" is irrational caprice; that thought must have a nature of its own, and work according to its own principles which are also the principles of Reality; and that the "eternal problems of metaphysics" cannot be buried by M. Brunschvicg's device of inferring from the failure of the proffered solutions the illusoriness of the problems themselves.] **R. Berthelot.** *La Sagesse de Goethe et la civilisation de l'Europe*

sevles.] **R. Berthelot.** *La Sagesse de Goethe et la civilisation de l'Europe moderne* (*Suite et fin*). [The third and final instalment of this article, continuing the exposition of Goethe's concept of wisdom by means of a discussion of *Wilhelm Meister* and *Faust*, and of incidental comparisons with Tolstoy's *War and Peace* and Voltaire's *Candide*. The article concludes with a short discussion of wisdom, heroism and saintliness in their relation to each other, and of the actual and enduring value of Goethe's ideal of wisdom.] **G. Mauchassat.** *Sur les limites de l'intérêt littéraire des œuvres d'art*. [An article established by Marcel Philibert.

Goethe's ideal of wisdom.] **G. Mauchassat.** *Sur les limites de l'interprétation sociologique de la morale.* [Tries to establish Moral Philosophy as distinct from, and transcending, a *science des mœurs* on a sociological basis. Thus mainly directed against Durkheim's sociological theory of morals. Starting with the concept of philosophy as the "reflection of thought about itself," the author elaborates three lines of argument. First, reason does not merely analyse moral conduct and ideals as so many facts of action and belief, but it judges such actions and beliefs by its own autonomous standards of value. Secondly, it is necessary to distinguish between a theory of man as a natural phenomenon and a theory of him as a thinking subject in knowledge and action. Thirdly, though sociology may, as a pure science, eschew ultimate metaphysical problems,—e.g., it may apply the principle of causality to moral and social facts, without raising the issue between determinism and free will—yet in practice this hypothetical attitude of a science (sociology) tends to turn into the dogmatic attitude of an uncritical philosophy (sociologism), thus transforming a scientific postulate into a metaphysical law, and supporting determinism against free will, in spite of having disclaimed all intention of even broaching the question.]—*Études Critiques*: **Ch. Blondel.**

of even broaching the question.—*Etudes Critiques*: Ch. Blondel, *L'âme primitive, d'après M. Lévy-Bruhl*. [A careful summary of M. Lévy-Bruhl's book under that title, concluding with a discussion of the question whether modern Spiritualism (e.g., as represented by Sir Oliver Lodge's *Raymond*) is akin to "primitive" ways of thought or not.] *Questions Pratiques*: J. Delvoyé, *École unique et éducation intégrale*. [Contracte

Pratiques: J. Delvoe. *Ecole unique et éducation intégrale*. [Contrasts three ideals of education and, consequently, of school policy : The German-American ideal of the school as the instrument of the State for moulding 100 per cent. citizens ; the Marxist ideal of the school as the instrument for abolishing social distinctions and levelling classes ; the Stoic-Christian ideal of the cultivation of universal, supra-national values in a spirit of an equal brotherhood of all men : the essentially democratic ideal. Discusses the mixed influence of these ideals especially on the aims and methods of secondary education in France.] *Variétés*: P. Dugas. *La pensée et l'action*. [A brief discussion of the thesis of M. Benda's book, *La Trahison des Clercs*, according to which the essential distinction between thought and action is reflected in the social distinction between clerics and laymen, i.e., between lives devoted to "spiritual" and to "secular" purposes.]

or "temporal" interests. The function of clerics is to maintain intact the *concepts* of moral ideals in a world which in *practice* is sinful—to confront low-living with high preaching. The "treason" of the clerics is that they have assimilated themselves to laymen; that they have slurried over the essential difference between ideal and real; that they have abandoned their proper function. They have been corrupted by the lay world and now, in their turn, corrupt that world further. Their treason threatens civilisation with destruction from within. M. Dugas denies that ideals can be kept effective only by divorce from reality, the function of thought is to interpret experience and illuminate action.] New Books, French and Foreign. Periodicals. Obituary: Max Scheler.

REVUE NÉO-SCOLASTIQUE DE PHILOSOPHIE. xxx^e Année. Deuxième série, No. 20. Novembre, 1928. **N. Balthasar.** *À la recherche de l'unité métaphysique.* [Criticism of the metaphysical theory expounded by Decoster in *Acte et synthèse* (1928), according to which the one reality is "thought thinking itself". B. defends the Thomistic 'intrinsicism' of Being against this 'intrinsicism' of Thought.] **H. Macdonagh.** *La notion d'être dans la métaphysique de Jean Duns Scot.* [First section of a study of the metaphysics of the *Opus Oxoniense*. Scotus, as is well known, defends the doctrine of the "univocity of being" against the Thomist denial of it. But from the texts it appears that he does not conceive univocity in the rigid Thomistic way; the disagreement may be verbal rather than material. The point is important because of its bearing on the question of the real view of Scotus as to the possibility of a natural knowledge of God.] **J. Dabin.** *La notion du droit naturel et la pensée juridique contemporaine.* [A valuable article expounding the origin and meaning of the scholastic conception of the "natural law," and defending it ably against the notion of a "natural right of variable (or progressive) content" (Stammler, Renard) on the one side, and the proposal to reject "natural right" as the foundation of jurisprudence altogether, in the interests of "Christian morality" on the other (Ripert). An important point is made by distinguishing between the scholastic view of the "natural law" as the basis of *morality* and the later seventeenth century treatment of it as a perfect "model for positive juridical institutions".] **F. van Steenberghe.** *Bulletin d'histoire de la philosophie médiévale en occident.* [General review of the literature of the subject since 1925.] *Chronique de l'Institut supérieur de philosophie.* Reviews, etc.

VIII.—NOTES.

LOCKE'S LANTERN.

In a well-known passage of the *Essay* (Bk. II, chap. xiv, sec. 9) Locke writes : " Hence I leave it to others to judge, whether it be not probable that our ideas do, whilst we are awake, succeed one another in our minds at certain distances, not much unlike the images in the inside of a lantern, turned round by the heat of a candle " (and he goes on to say that the rate is more or less uniform).

I have always supposed Locke to be referring to something familiar in his time, but never understood the passage, till I attended a Christmas tree last year. A toy-lantern was there, hexagonal in shape, with panels of glass of different colours. It was open at both ends, but over the top, and attached to the body, was a metal vane with bent blades. The centre of the vane was a small round piece of glass tubing which could pivot on the apex of a slight frame containing the candle at its base. When the candle was lit, the ascending air turned round the vane, and with it the lantern, with its succession of coloured panes at regular distances. You had only to suppose the coloured panes replaced by plain glass and pictures behind them on transparent paper, and lo ! there was Locke's lantern or something like it. No Christmas tree has given me so much delight, and as if better to recall the great days of Locke and Newton, two of the four children present were grandchildren of a philosopher, and two were grandchildren of a mathematician.

Some such toy or philosophical instrument must have existed in the seventeenth century. I have tried, not energetically, to discover its date ; but the kind and learned historians of science whom I have consulted, I regret to say, as the young lady says of her lover in Goldsmith's song, " fail to relieve me ". In Athanasius Kircher's *Ars Magna Lucis et Umbrae*, which one of them advised me to search, an instrument called the Smicroscope is described (ed. 2, 1671, p. 771) where a glass disc inside a box, with pictures behind it, is made to turn round and bring the pictures successively over the aperture of a tube driven through the box, through which the eye looks. But this appears to be a derivative of the magic lantern, and the turning is done, it would seem, mechanically. The truth is, as I suppose, the principle of our toy is so simple that it might have been invented at any time. Nevertheless the history of it would be interesting to discover.

In philosophical and scientific places such as Manchester, Locke's lantern (in its present, doubtless degenerate, form) may be obtained (better asked for, perhaps, as a rotary lantern), at toyshops for sixpence ; and no doubt in less favoured places for not much more. The expenditure will be found rewarding, even by childless philosophers.

S. ALEXANDER.

Withington, Manchester.

MIND ASSOCIATION: ANNUAL MEETING AND JOINT SESSION WITH THE ARISTOTELIAN SOCIETY.

THE Annual Meeting of the Mind Association will be held this year at University College, Nottingham, on Friday, 12th July, at 5 p.m.

It will be followed by a Joint Session with the Aristotelian Society, for which the following arrangements have been made :—

FRIDAY, 12TH JULY.

8 p.m. Address by Prof. F. Granger : "Probability and Paradox".

SATURDAY, 13TH JULY.

10 a.m. Symposium : "Indirect Knowledge". Prof. G. E. Moore, Mr. H. W. B. Joseph.

2 p.m. Symposium : "The Present Position of Realism". Prof. J. Laird, Mr. C. E. M. Joad, Miss L. S. Stebbing.

8 p.m. Symposium : "Negation". Mr. J. D. Mabbott, Mr. H. H. Price, Mr. G. Ryle.

SUNDAY, 14TH JULY.

2 p.m. Symposium : "Immediate Experience". Prof. G. Dawes Hicks, Prof. B. Edgell, Prof. G. C. Field.

8 p.m. Address.

Accommodation will be provided both for men and women at the Hall of Residence for Women Students at University College, Nottingham. The inclusive charge for board and lodging from Friday afternoon till Monday morning will be 35s. Members of the Joint Session not lodging at the Hall of Residence may have meals there at the following charges : Breakfast, 2s. ; Lunch, 2s. 6d. ; Tea, 9d. ; Dinner, 3s. 6d.

There will be a charge of 10s. as a Registration Fee for Membership of the Joint Session. The papers will be published by the Aristotelian Society as a Supplementary Volume, which will be sent free of charge to all who have paid the Registration Fee. It is hoped that it will be ready in time to be distributed before the opening of the Joint Session.

In order to facilitate the making of arrangements it is earnestly requested that applications for membership and accommodation should be made as early as possible. Payment of the Registration Fee and of the charge for accommodation should accompany applications. Applications and payments should be made to :—

W. H. Sprott, Esq.,
University College,
University Park, Nottingham.

BACK NUMBERS OF "MIND".

The Department of Philosophy of the University of Buffalo, Buffalo, New York, U.S.A., desires to obtain four back numbers of "MIND," viz., Vol. XXXV, Nos. 137, 139, and 140, and Vol. XXXVI, No. 141, in order to complete its series for binding. If any reader can assist in this matter, a communication to Prof. R. W. Boynton will be appreciated.

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